CIO

BUSINESS TECHNOLOGY LEADERSHIP

5 SECRETS OF PROJECT MANAGEMENT SUCCESS
The people, the process, the tools
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HOW TO FIX A BAD OUTSOURCING DEAL
It's not just about getting to yes
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MOBILIZE YOUR ENTERPRISE APPS
How to overcome the obstacles
Page 25

THE ~~GLOBAL~~ Confusing STATE OF INFORMATION SECURITY

There's good news and there's bad news...

83% of **you align** security policies with business goals, **but... 57%** of **you don't monitor** compliance with security policies.

75% of **you are confident** in partners' security, **but... 72%** of **you don't examine** how third parties handle personal data.

83% of **you believe** your security practices are effective, **but... 44%** of **you don't know** how security incidents happened.

What It All Means, What to Do Next

BY KIM S. NASH

Exclusive research begins on Page 45

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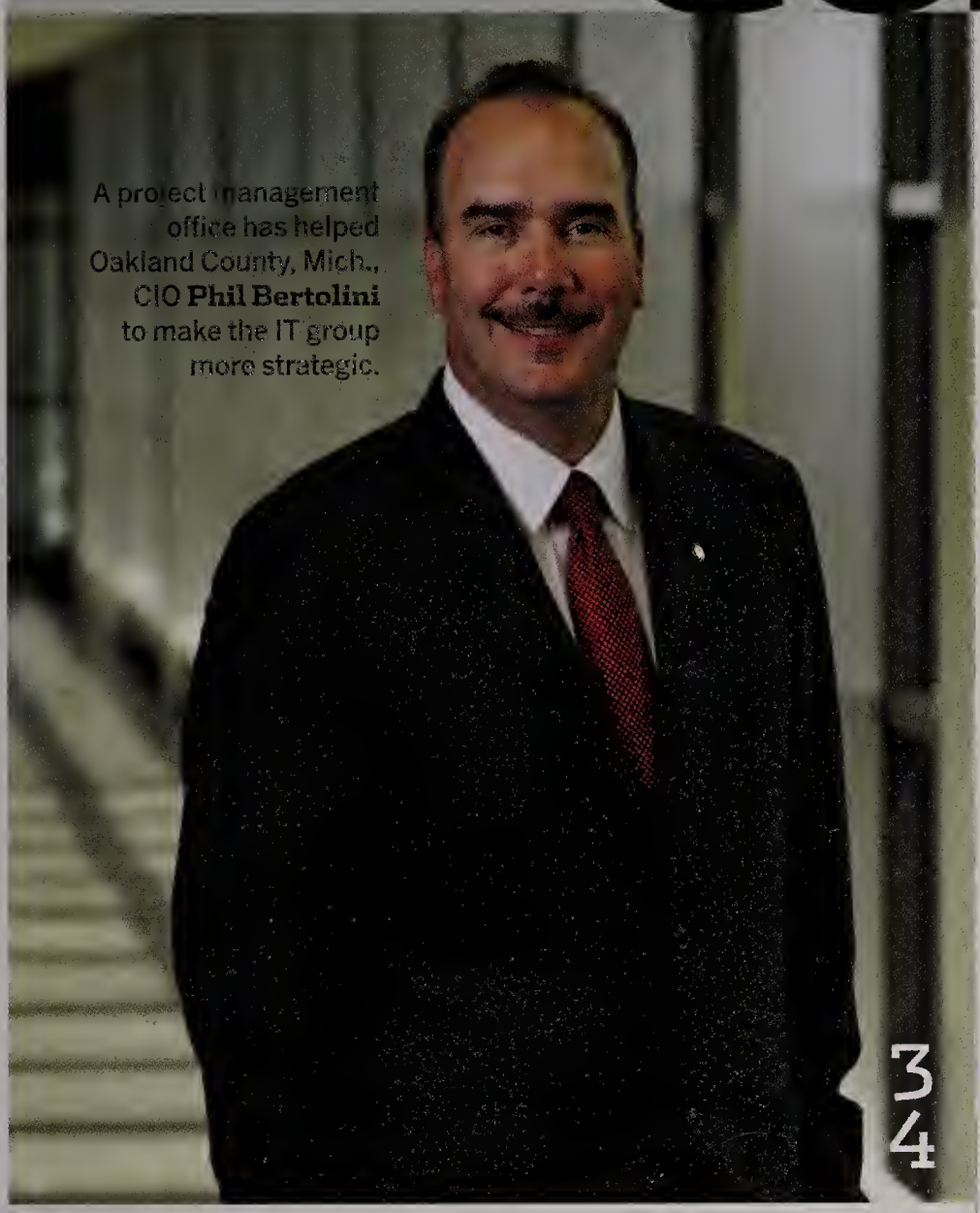

A project management office has helped Oakland County, Mich., CIO **Phil Bertolini** to make the IT group more strategic.

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[THE ECONOMY]

Financial Industry Meltdown: WHAT'S IN STORE FOR I.T. EXECS?

Economic chaos has rocked thousands in IT: from CIOs, such as Merrill Lynch's Tom Sanzone and Washington Mutual's Deb Horvath, to tons of jittery IT workers. "There's clearly going to be a reshuffling of the deck" inside IT departments, says Marc Lewis, CEO of executive recruiter Leadership Capital Group.

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[SOA DRILLDOWN]

LEAPFROG MAKES A LEAP ONTO SOA PAD

Just about every educational toy released by Leapfrog this year will be Web-enabled. Learn how the company is leveraging the Internet to share information between teachers, parents and children by building a service-oriented architecture the old-fashioned way.

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HOW GOOGLE FIGHTS GOVERNMENT WASTE

The D.C. government is migrating its 38,000 employees to Gmail and Google Apps. Here's a look at how and why.

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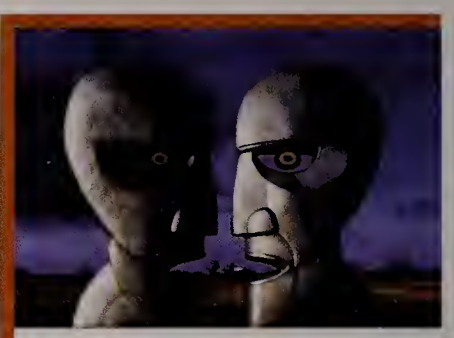

[YOU'RE THE BOSS]

WHAT YOUR TEAM CAN LEARN FROM PINK FLOYD

The band that brought us "The Wall" has a number of lessons to teach about collaboration, team-building and management skills. **advice.cio.com/node/6553**

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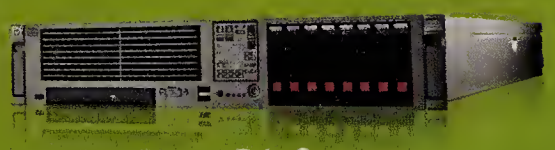

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Acceptable Risk

So the economy's tanking; it's no time to blink

You know the game "chicken"? That describes what it feels like as companies push for more growth and innovation in a time of increasing economic uncertainty. Today's business landscape is like a volcanic field, with eruptions taking place left and right. Rising fuel and commodities costs have changed the equation for many businesses. The effects ripple from suppliers through layers of the value chain to businesses that might not initially have thought they were at risk.

This comes on top of the fact that many companies' business models are shifting beneath the surface of digital change. New employees and customers have radically different expectations about what you should be doing for them. Business leaders who know things are changing, but don't know exactly how or what or why, have higher-than-ever yet ill-defined expectations of IT.

And as I write this today, people are just trying to get their heads around what the crisis in the financial markets means for them.

One thing it means is that the pursuit of innovation not tempered by risk management is, well, risky. As Diana Farrell, director of the McKinsey Global Institute, writes in the October issue of the *Harvard Business Review*, "Clearly, risk management has lagged behind innovation in the financial system, and existing regulatory frameworks and institutions need to be updated to keep pace."

But that doesn't mean it's time to retrench. Forrester founder and CEO George Colony spoke about "the brutal truths of chaos" at the recent Business & Technology Leadership Forum. CEOs he's interviewed recently (including Mark Hurd and Steve Ballmer) are still pushing their organizations to embrace risk, he said, with their own success imperatives being things like, "embrace disruptions," "engender risk taking" and "destroy bottlenecks that prevent innovation." His advice to CIOs: Manage IT like an iceberg, with heavy standardization, reliability and lower costs beneath the waterline, but above the waterline, let it snow.

Managing innovation is the same as managing a financial portfolio, says Dave Olverson, a director of IT and blogger (TechyPundit.com). "No risk means no innovation. The trick is to embrace the risk and actively manage it because not doing so means stagnation."

What are you doing to manage risk while still pushing innovation? Drop me a note; I'd love to know about it.

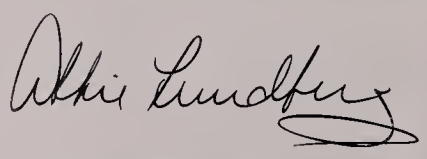

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PHOTO BY STEVEN VOTE

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Dazzled by the Glitz

It's easy to get swept up in the next new thing

Based on current global economic conditions, it seems that all of you are really bunkering down and focusing on operational innovation these days. This philosophy was recently emphasized when Josh Morton, VP of IT operations for Sprint Nextel, said that "the business reality today is that you have to be better, faster and cheaper." This is causing CIOs to test their traditional thinking. It's also causing a movement toward new and "sexy" technologies like SOA, open source, SaaS, wireless and virtualization, to name a few.

But what about the "nonsexy" technologies that are tried and true and offer a ton of efficiency? I had the opportunity to meet Earl Beauvais, director of print, plot and scan, the shared services for Boeing, at a recent industry event. I asked him how much Boeing spends on printing. He smiled and said, "Would you believe that five years ago, Boeing was spending $150 million a year?"

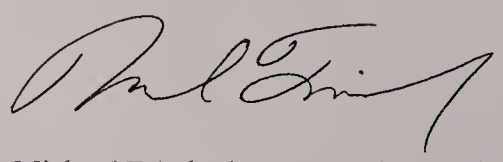
Two things amazed me about his answer: One, that a company can spend that much money on printing, and two, that Beauvais actually knew the answer to the question without even blinking. We all know the famous quote that "you can't manage what you don't measure." But honestly, if I were to ask all of you right now how much you spend on printing, would you be able to answer that question right off the top of your head?

I'll bet not. In a recent *CIO* study on green IT, we found that 61 percent of CIOs don't currently measure their overall carbon footprint, and printing is a large component of this. What's even more impressive is that Boeing has been able to cut their print expenses by $50 million over the past five years. They print less, have a more efficient workflow and are a better "green" player.

With the priority list growing and economic uncertainty lurking, printing might not be top of mind for you. But if you could save $50 million tomorrow by managing this element of your business better, wouldn't you put some focus on it?

The point is this: We (press, vendors and CIOs) get a bit mesmerized by the flash bulbs and the glitz of new technologies and their potential. But, there are still plenty of areas in our daily operations where millions can be found if we took the time to focus on them. Printing is just one example.

Have you found a way to be better, faster and cheaper? Let us know about it so we can share your success with other CIOs.



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trendlines

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NEW * HOT * UNEXPECTED

U.S. Seeks to **Shut Backdoors** in Tech Products

INFRASTRUCTURE As part of a comprehensive cybersecurity push, the U.S. government will focus on improving its network defense capabilities and revamping acquisition rules to protect against malicious code installed during the manufacturing process of electronic devices.

The National Cybersecurity Initiative, announced in January, will replace the government's outdated network perimeter defense system, officials from the U.S. Department of Homeland Security (DHS) and other agencies said at the cybersecurity conference held last month by the Information Technology Association of America.

Cyberattacks have grown more sophisticated in the past year, says Melissa Hathaway, senior advisor for cybersecurity at the Office of the Director of National Intelligence (DNI).

"We are faced with a dangerous combination of known and unknown vulnerabilities, strong adversary capabilities and very weak situational awareness at this time," she says. "We see this as a growing economic and national security crisis."

Continued on Page 12

Can't Recall Your Password? Try This.

PRODUCTIVITY Our brains are littered with passwords from bank accounts, PINs, work e-mail, network log-ons, e-commerce and social networking sites.

How bad is the alphanumeric clutter in our heads? The average person now must remember five passwords, five PIN numbers, two number plates, three security ID numbers and three bank account numbers, according to research from Ian Robertson, professor of psychology at the Institute of Neuroscience and School of Psychology at Trinity College in Dublin, Ireland. His research found that nearly 60 percent of those studied felt they couldn't remember all these numbers and letters. As a result, most users create weak passwords or rely on technology to create or store alphanumeric data.

Robertson says that people can remember more information if they practice visualizing it. "We could happily remember two dozen passwords using some fairly standard memory methods," he says

He points to one long-standing way to recall numerical-based passwords: visual imagery. First, create an easy-to-recall rhyming word for each number of your password, one through 10. "One is bun, two is shoe, three is tree, four is door, five is hive, six is sticks, seven is heaven, eight is gate, nine is wine and 10 is hen," Robertson suggests. So if, say, your code is 6329, you would first visualize a pile of sticks (for six), spread all around a tree (three), where a shoe (two) is hanging on the tree, and a glass of wine (nine) is pouring over the tree. The same approach works for alphanumeric passwords. "The first few times will be time consuming," says Robertson. "But if you get into the habit, you could remember two or three dozen visual images." *–Tom Wailgum*

PHOTO BY JOERG REIMANN

Most IT Teams in Need of a Culture Overhaul

WORKPLACE If it seems like your IT team works on an island all of its own making, a recent report by Forrester Research may explain why. As many as 85 percent of those surveyed believe a firm's IT's culture differs from its overall culture.

Forrester analyst Marc Cecere estimated that IT department culture fails to jive with overall corporate culture in about half of all businesses. A distinct IT culture may evolve due to different ways of measuring success. However, Forrester says problems can arise when the IT culture strays too far in three directions:

» Too IT-Centric or Fearful | When IT doesn't have a healthy relationship with the business, it's in danger of forming an us-versus-them culture where IT hunkers down behind the technologies it manages and the problems it solves.

» Too Heroic or Autonomous | The danger here is a tendency to firefighting and working extreme hours to solve problems. This can also lead to developing workarounds, rather than fixing the underlying issues.

» Too Bureaucratic | IT can isolate itself if it sets up too many formal processes for customers to follow. Overly complex requirements can create unnecessary barriers between business needs and IT solutions.

So, how does a CIO go about overhauling IT culture? Cecere says identify the cultural gaps, examining differences in decision making styles and levels of risk. Strong leadership and clearly defined metrics will help close those gaps, as will a network of people within IT who regularly share information with the CIO.

"It's what I call 'institutionalizing communication,'" he says. "It's more than just communicate, communicate, communicate. It's actually being very disciplined and very organized about it."

–Marissa Berenson

CIOs Seek Key Skill Sets

STAFFING A study of more than 1,400 U.S. CIOs found that 11 percent plan to hire additional staff in the fourth quarter, while 3 percent expect cuts. What are some of the most sought skill sets?

NETWORK ADMINISTRATION 70%
WINDOWS ADMINISTRATION 69%
DESKTOP SUPPORT 69%
DATABASE MANAGEMENT 58%
WIRELESS NETWORK MANAGEMENT 47%

**CIOs were allowed multiple responses*
SOURCE: Robert Half Technology

Cybersecurity

Continued from Page 11

Government officials are increasingly concerned about hidden vulnerabilities and Trojan horses in commercial technology products, says Paul Schneider, deputy secretary at DHS. The U.S. government needs to better protect its supply chain, particularly when a growing number of tech products are produced overseas.

The U.S. government will work with private vendors to address those supply-chain concerns, he says. DHS is also looking at implementing stricter acquisition rules for tech products.

There have been examples of credit-card point-of-sale machines stealing credit card numbers and passwords, Hathaway notes. "We need to be more concerned about backdoors in the supply chain," she says.

Another major concern is the U.S. government's perimeter defense, officials say. The current perimeter defense scanner, nicknamed Einstein, was launched in 2004 and is a largely passive monitoring system, Schneider says.

"Simply put, [Einstein] is a flow-management system that lets us know after we've been attacked," adds Neill Sciarrone, special assistant on cybersecurity in the White House.

Einstein protected a small percentage of the access points to the federal government's networks, adds Robert Jamison, undersecretary for national protection and programs at DHS. His agency is currently testing a new version of Einstein that would protect all of the government's networks, he says.

The long-term cybersecurity initiative will focus on several other issues, including better sharing of information about cyberattacks and sharing government defense capabilities with private companies, officials say. The government also will work on recruiting more cybersecurity experts to work for U.S. agencies and educating Internet users about vulnerabilities, they say.

–Grant Gross

EXECUTIVE VIEWPOINT

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Creating Value Through Application Outsourcing

Keith Kerrison
AMERICAS DIRECTOR FOR GLOBAL DELIVERY
APPLICATION SERVICES, EDS, AN HP COMPANY

Kerrison and his team provide onshore, near-shore and far-shore applications services for both consulting and outsourcing customer engagements. He has more than 24 years of experience in application services and has operated within a regional and global IT delivery framework for over a decade.

Application outsourcing has moved away from pure labor arbitrage decisions as companies increasingly view outsourcing through the lens of business value. An increased focus on service and business partnering means that companies can leverage their outsourcing investments more effectively, says Kerrison.

Why do customers outsource their enterprise applications?

Naturally, many customers focus on cost benefits, but they can also leverage outsourcing to access deep expertise in a wide spectrum of services. Outsourcing can provide flexibility to quickly ramp services up or down for companies that need to consolidate IT services due to acquisition or divestiture activity. Outsourcing allows companies to focus on their core business competencies while using our core competency in outsourcing. The result: They get better IT services for a lower total cost of ownership and can reallocate resources toward growth or other business priorities.

What benefits do clients expect?

Good outsourcing partners find ways to reduce costs beyond moving work offshore—such as leveraging tools and technology—to automate and eliminate work. Customers also expect to access their partners' expertise across the board, for example, the innovation that comes from HP Labs. Outsourcing allows customers to access capabilities that they would not otherwise be able to afford themselves, giving them a competitive edge.

What are the challenges your customers face today?

Time to market is a key pressure—being better, faster, cheaper and responding quickly to market dynamics. Application upgrades are another issue, as companies seek to modernize and streamline their assets. In a constantly evolving business environment, CIOs face the prospects of a changing IT portfolio and strategy. They often delay initiatives because of a lack of skills or cost pressures.

How are you helping customers address those challenges?

By providing best-in-class processes, we help companies focus their investments on innovation and value creation, and reduce the spend on application maintenance. One of the most important tools we have is our global delivery model, which was built to provide a consistent engagement model around the world. We have a strong and proven methodology to transition the client environment to HP and transform it. It's part of our focus to use our infrastructure and applications portfolio to give the client an optimized environment at a lower cost structure.

It's important for customers that our people develop deep expertise of their business, and we provide that with our "Client University", a repository of knowledge about each customer. It builds strong customer affinity. One CIO of a long-term customer said he saw the HP team as an extension of his own team, not as a supplier. That's very powerful.

How will EDS, an HP company, continue to invest and deliver more value to your customers?

HP has been investing in this space and growing the organization substantially to support customers with access to resources in multiple locations. Acquisitions such as Peregrine added IT asset and service management tools to HP's OpenView Portfolio, while the Mercury toolset has been set into the application services delivery process. The Knightsbridge acquisition strengthened information management, and the recently completed acquisition of EDS allows us to significantly grow in application services and deliver the broadest portfolio in the industry. All of this aids us in achieving our top priority: to help our customers achieve better business outcomes.

For more information on Application Services from EDS, an HP company, check out the latest industry report at **www.cio.com/whitepapers/hpapps**

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SSDs Are HOT, But Not Without Security Risks

STORAGE Solid-state drives (SSDs) are becoming popular replacements for hard drives, especially in laptops, but experts caution that SSDs aren't as secure as commonly thought.

SSDs offer better data security than traditional hard drives but they do not completely erase data and are vulnerable to physical hacks. The drives are gaining in popularity, particularly for use in laptops, because they consume less power and access data more quickly.

But many SSDs use industry-standard NAND flash chips designed for cameras and MP3 players, so they have no physical security hooks that prevent them from being removed from enclosures, says Jim Handy, director of Objective Analysis, a consulting firm. A hacker could unsolder NAND chips from an SSD and read the data using a flash chip programmer. Once the data is read, the files could be reassembled using data-recovery software. "There's really nothing sophisticated about this process," he says.

Another hack involves using an ultraviolet laser to wipe out lock bits—or encryption locks—from fuses on chips that secure SSDs, says a chip hacker who prefers to be called Bunnie and runs the blog site Bunnie Studios. Data arrays from SSDs can be read using standard means after the lock bits are wiped.

To lessen chances of hackers stealing data, encryption keys could be integrated inside the SSD controller device to handle disk encryption at the hardware level, says Craig Rawlings, marketing director at Kilopass, a vendor of products using extra permanent memory technology that stores keys in system-on-chip devices.

–Agam Shah

U.S. Border-Crossing Database Raises Concerns

PRIVACY A plan by U.S. Customs and Border Protection (CBP) to collect personal information on travelers coming into the country and keep it in a database for 15 years could have huge privacy implications for U.S. residents, one privacy group says.

The Center for Democracy and Technology (CDT) says the plan raises serious privacy concerns. The proposal represents a "vast scope of data collection," because data wasn't formerly kept for U.S. citizens crossing into the country by land, the CDT says.

In addition, the 15-year retention period for the data is "excessive," wrote Gregory Nojeim, senior counsel at CDT. "It cannot be justified as necessary for determining whether the record subject is admissible, or is dangerous or is the subject of an outstanding criminal warrant," he wrote in comments filed by the CDT.

The plan allows for the agency to share the information with other government agencies for a wide variety of reasons. In the past, CBP could only share information when it became aware of a violation or potential violation of laws or regulations.

A DHS spokeswoman discounted the privacy concerns, saying the traveler database is not new. Border officials have collected information on some travelers in the past, and this is an attempt for CBP to be more transparent about its information-collection practices, says spokeswoman Amy Kudwa. "This is not something new," she says. "We are not using the information in a new way."

CBP has also come under fire by privacy advocates in recent months for searches of laptops at U.S. borders without having specific suspicions of criminal behavior. CBP and DHS officials have defended the practice of searching a small number of laptops by saying it helps catch terrorists and other criminals.

–Grant Gross

ILLUSTRATION BY JAMIE FARRANT; PHOTO BY LILLI DAY

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What the New **HP-EDS** Means for You (and IBM)

OUTSOURCING Hewlett-Packard recently unveiled its multiyear plan to assimilate its purchase of IT outsourcing powerhouse EDS, which involves 250 integration projects, nearly 10,000 integration milestones and the elimination 24,600 jobs. The moves, HP Chairman and CEO Mark Hurd says, will save the combined company $1.8 billion.

But what does it mean for customers of HP, EDS—or both?

Most layoffs will occur in EDS support positions, not customer-facing roles, the company claims. "The main concern for potential customers is whether an announcement like this will have a chilling effect on the workforce that would normally transfer from the customer to the provider," says Edward Hansen, a partner in the business and finance practice of Morgan Lewis & Bockius.

As a result, "Many clients will be asked to accept changes to elements of their service, be it personnel or delivery location, advises Mark Robinson, an executive director of outsourcing consultancy EquaTerra. "They should be mindful of the contractual protections they have that will allow them to remain in control."

Only time will tell if HP can successfully sync these two distinct corporate cultures. "With some 30-plus acquisitions under its belt in the past three years, HP is treading on familiar ground," says John Madden, research director for IT consultancy Ovum. But "it will take six to nine months for the first real signs of progress from the integration to emerge."

If the HP-EDS marriage lives up to its on-paper promise, the new company could offer outsourcing customers their first real alternative to IBM Global Services. "IBM, for the first time, is facing a global competitor that will be able to match it for both infrastructure and service capabilities in most, if not all, categories and geographies," says Robinson.

However, an integrated HP-EDS may be bad news for customers who used both companies as competing service providers. "Those customers will have to migrate over time to one or more other suppliers," says Lowell Williams, EquaTerra's head of human resources advisory services, "to ensure this new 800-pound gorilla plays nice." *–Stephanie Overby*

Web Founder Aims for Truly Global Internet

INTERNET Tim Berners-Lee, the inventor of the World Wide Web, plans to launch a new foundation focused on extending the capabilities of the Web and bringing the Internet to all the world's people.

The World Wide Web Foundation, scheduled to launch early next year, will "advance a Web which is open and free," Berners-Lee said at a Washington, D.C., event. The foundation will promote democracy, free speech and the freedom of users to access the online content they want, he said. It will also push Web standards and interoperability.

TIM BERNERS-LEE

A major focus of the foundation will be to provide Web access to the 80 percent of the world's population that is not currently online, said Berners-Lee, now a professor at the Massachusetts Institute of Technology. He acknowledged that the goal is a "very big undertaking," but said it's important for the Web to benefit all of humanity.

The Knight Foundation will provide $5 million in seed money to help launch the foundation. *–Grant Gross*

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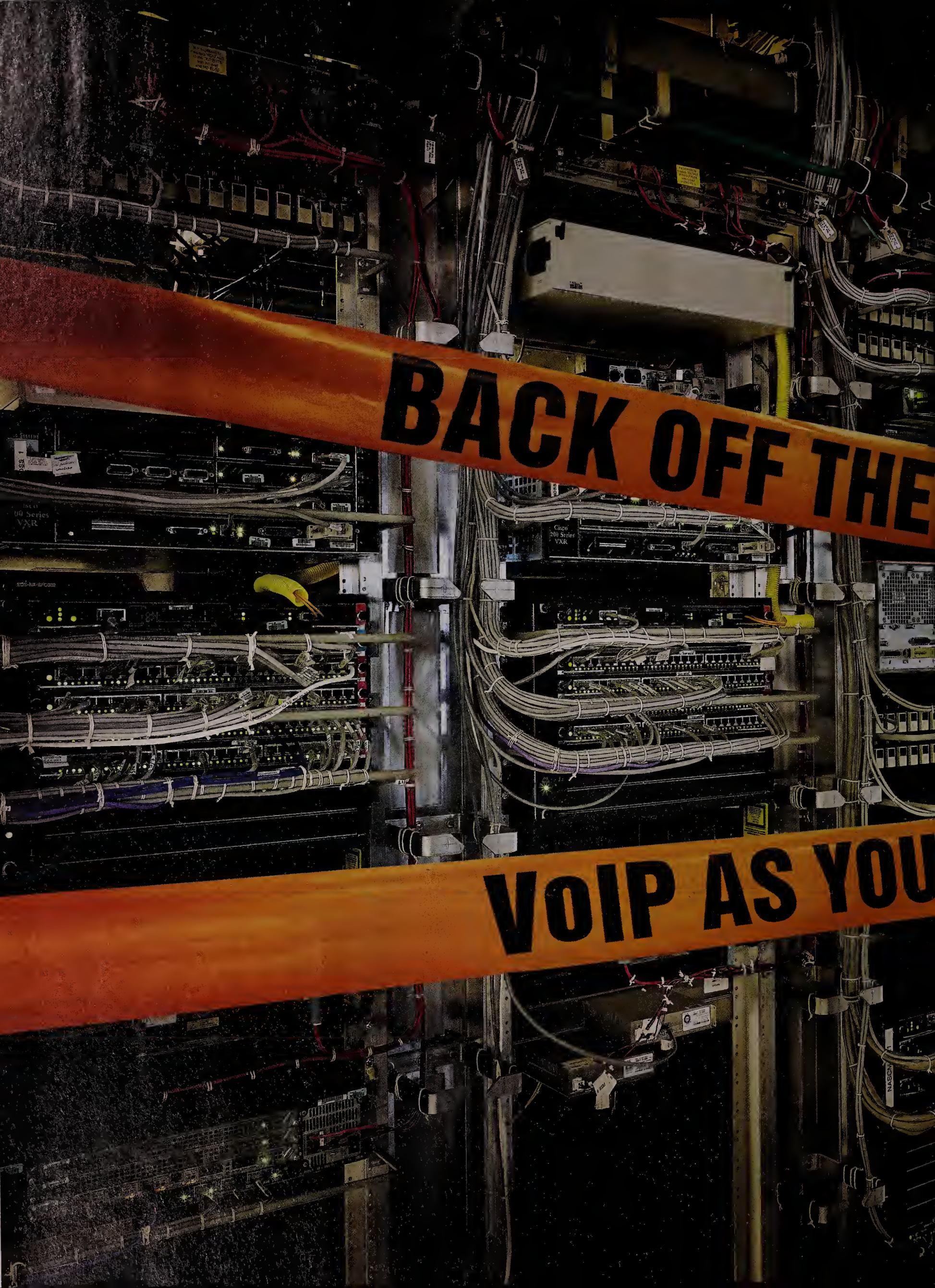
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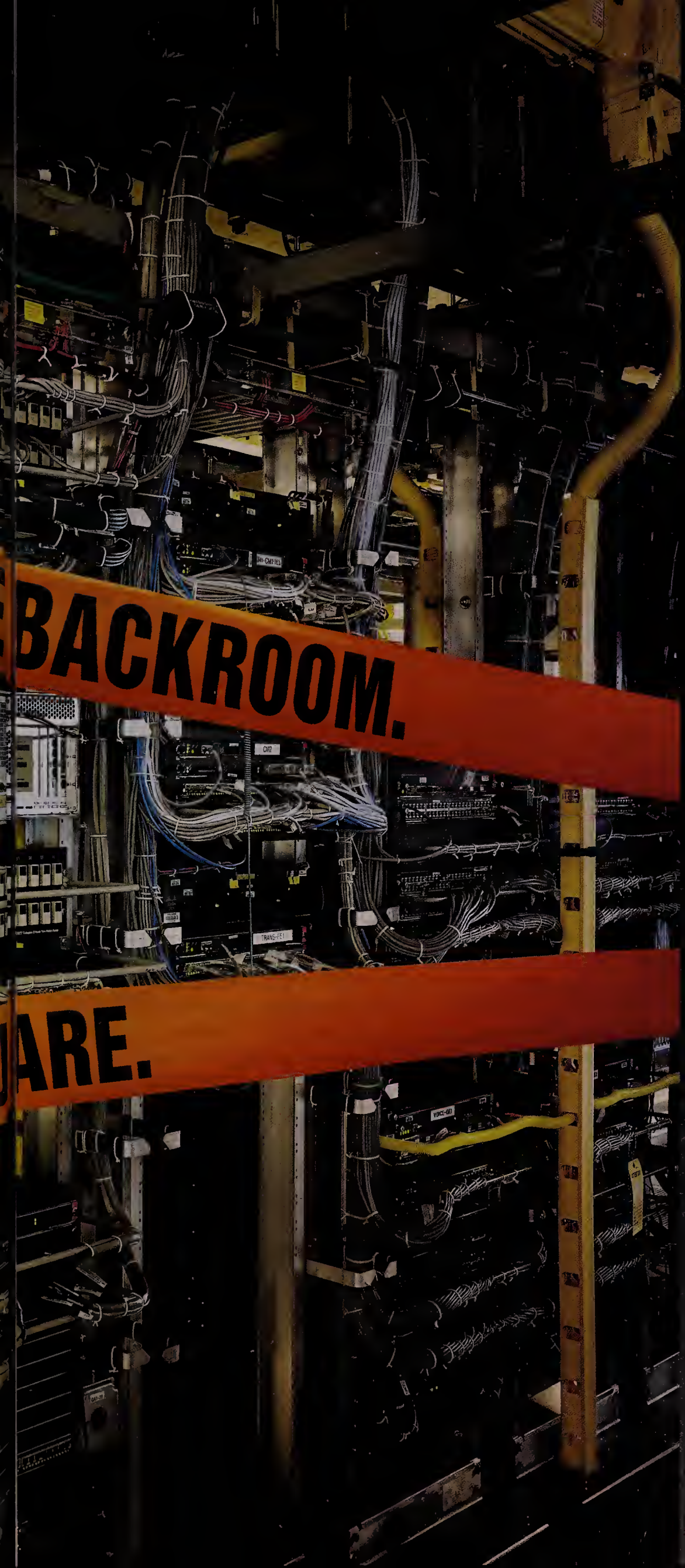

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by the numbers

BY JARINA D'AURIA

Risk Management Takes Root

Survey of insurers finds poor risk data and analysis still hinders how effectively companies are able to employ enterprise risk management

ENTERPRISE RISK MANAGEMENT (ERM) has been around for years, but it is in different stages of maturity within different industries. The insurance industry, for example, has only begun to implement ERM into its strategic planning in recent years, says Paul Horgan, partner and leader of the global risk and capital team of PricewaterhouseCoopers (PwC).

Significant progress has been made, according to a recent global survey of 53 insurers by PwC, in which Horgan was the primary author: More than 90 percent have ERM programs in place. However, most firms are still not using ERM effectively to manage their new or emerging risks, according to the study. "If they accept the risk mandates thrown over the fence from corporate without pushing back or making sure they understand how it can add value, then they are being passive," Horgan says.

Companies often stumble over ERM's first steps: defining and communicating risks in a way that translates into limits, objectives and priorities for employees to follow. As a result, less than half of insurers surveyed are confident ERM is embedded in their strategic business decisions, says the study.

From an IT standpoint, ERM's effectiveness is also hurt by poor risk data and analysis. Risk assessment tools and methodologies are up and running in only about half of the firms surveyed in the study. And fewer than 40 percent of respondents say their firm's risk data and systems are "good" or "excellent."

Yet a strong ERM system relies on effective systems and quality data, which are critical in maintaining the flow of timely and reliable risk management information. "We have seen companies suffer unintended strategic disadvantages because they were too slow to react to changes in IT," Horgan says.

The more standardization you can have from an IT perspective, the lower your risks are overall. CIOs can help by working with the business to create an integrated reporting structure, data systems and modeling capabilities. Many insurers are still at the beginning stages of implementing such change.

Best Practices

1. **Be clear about your risks.** Before establishing ERM policies, recognize the risks the business is already taking and set up compliance standards.

2. **Involvement is key.** Everyone needs to play an active role. The best way to involve employees is with consistent training and self assessments about the company's risk.

3. **Choose your risk manager wisely.** This individual has to create a two-way conversation within the business. She also has to manage the risk-taking activity and controls already in place while factoring IT into the strategic risk assessment.

Insurers on the Path to ERM?

Confidence is growing in this discipline...

49 percent of insurers are confident that **ERM is genuinely embedded in their firm's strategic planning** compared to **4 percent** in 2004.

...But there is still work to be done.

42 percent of respondents believe their **organization spends too little money on risk data management,** up from **30 percent** in 2004.

RISK

AND WHY PEOPLE ARE KEY TO MANAGING

YOUR COMPANY'S DATA PRIVACY

Many companies focus their data privacy efforts only on reviewing, testing and configuring their technologies. So it is no surprise that newspapers are filled with headlines about inadvertent disclosures of credit card information and losses of intellectual property. The fact is data privacy starts with everyone in the company understanding their role in managing this risk – in other words, making privacy part of your culture. At Protiviti, we help you to establish the company culture needed to protect your reputation and information assets. Our professionals deliver experience and insight to you about the root-causes of data breaches. And they are armed with the Protiviti Data Privacy Compliance Portal, a proprietary tool for education and monitoring company culture which allows you to manage and track the progress and efficacy of your data privacy program. Using this approach, we are helping a global client successfully roll out a data protection program to thousands of sites. So if you – and your employees – are ready to look beyond technology to create a data privacy program that really works, give us a call today.

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BY **CHRIS KANARACUS**

Database Administrator

job description: A database administrator (DBA) is responsible for installing, backing up, testing, securing and making changes to production databases within an IT environment. They work on ongoing development projects with developers and architects and, increasingly, with business-side workers. They also maintain operations on a day-to-day basis.

why you need one:

A company's data is its lifeblood and therefore it needs an experienced, skilled steward at the helm, says John Mahoney, a senior staffing consultant at Hollister, a staffing firm specializing in technology. "A good DBA—they really are tough to find," Mahoney says. "You're talking about the data integrity of the entire company."

desired skills:

Companies and recruiters prize real-world experience—from several years to more than 10—over certifications (although those do help, especially for popular platforms like Oracle and, to a lesser extent, SQL Server 2000 and 2005). "The database experience we look for most of the time is Oracle," says Tom Hart, executive vice president of the operations and technology group at Veritude. "SQL Server is more of a 'nice-to-have.'"

Demand for other platforms, such as DB/2 and open-source offerings like MySQL, is much softer, say specialists. There is also not yet a great deal of demand for the newer SQL Server 2008.

salary range
$65,000 to $130,000

where to look:

Go to the likely sources to find DBA candidates, such as job boards and user groups. The main problem, says Hart, is that there are "more DBA jobs than there are people to fill them."

what to look for:

Before the tech-bust, "clients just needed bodies," says Mahoney. Now, "they want DBAs to interact with different business units in the company. Especially in smaller shops, they want their DBAs to be able to go out and speak to end users and developers and figure out the crux of the problem."

Sean Gorman, who is a DBA with HiWired, a remote tech-support provider, agrees. "People who can sit down with business end users and collect requirements, that's huge," he says. "A lot of business users are big fish, and so you can't get pushed around. You're the expert and the one who's got to solve the problem, so you have to be able to push back if it is necessary."

elimination round:

Mahoney says one of the first things he asks a candidate is about their knowledge and opinion of the client's operation. What comes out of their mouth—or doesn't—is telling, he says. "If they don't have an answer, if they're not prepared for me, why would they be prepared for the client?"

growing your own:

Compounding the tight supply of outside candidates is the fact that it is difficult to cultivate DBAs within an organization, says Gorman. "I haven't seen a whole lot of that personally. The only two sources of people who would fit that role are systems people or developers," he says. "Typically, people in those two roles are in that because they want to be." Big enterprises, which may have multiple senior DBAs that can provide mentoring, are more likely to have success in grooming junior employees for DBA slots, Gorman suggests.

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Edited by **Elana Varon**
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Tools to Take You Mobile

There's help for IT departments challenged with taking enterprise applications wireless

BY MICHAEL FITZGERALD

MOBILE APPLICATIONS | E-mail is no way to run a café. Au Bon Pain VP of IT Randy Burkhart knew that on weekends, managers were logging in to e-mail multiple times, checking for potential issues at their stores. Even the BlackBerry was too slow to let them respond to problems quickly.

But a couple of years ago, Burkhart noticed that smartphones were becoming powerful computers in their own right. So 18 months ago he started deploying corporate applications on Windows Mobile cell phones, such as a daily profit-and-loss report and alerts that inform managers about staffing or supply shortages. The initial application was deployed in six weeks. Managers can pick between Motorola Q and Treo phones.

The result has been a quicker response time for all kinds of problems. When an Au Bon Pain catering van ran into a customer's car in a parking lot recently, the company's area director didn't need to e-mail someone and then wait around. He used his phone to take pictures of the accident and report it to the people who would have to handle it.

"There is a time value to information," Burkhart says, and smartphones let his company get more value for their time.

Au Bon Pain is not alone. Companies that got their feet wet on wireless e-mail with the BlackBerry are primed to move other applications onto smartphones, says Andy

ILLUSTRATION BY ANASTASIA VASILAKIS

Seybold, a veteran wireless consultant. Improvements to smartphones themselves (more memory, better processors) and to wireless networks (they're faster) make such projects more viable, even for small companies. Research company Frost & Sullivan predicts that mobile phone use for field-service applications will increase from 1.5 million subscribers this year to 11 million in 2013.

But obstacles remain. For example, wireless carriers aren't used to selling enterprise systems to companies because enterprises require different types of support than carriers are set up to deliver. Companies are better at getting data into and out of their core applications than providing mobile access to that data. Nevertheless, data integration with enterprise systems poses barriers. Phones have vastly different capabilities and user interfaces. "There's a continuous stream of devices," says Terry Stepien, president of Sybase's iAnywhere, which helps companies make applications work better for remote and mobile workers.

"Some will have keyboards, some won't. Some will have GPS, some won't. They'll have different operating systems. It's a heterogeneous world and it looks like it's going to stay that way."

Companies can try to build their own interfaces to extend applications to mobile phones. They can use a variety of middleware platforms, such as the iAnywhere's Information Anywhere suite, or they can turn to mobile-oriented integrators to do the job.

Wireless Three Ways

Au Bon Pain went the integrator route. It got help from Enterprise Mobile, which is backed by Microsoft and works primarily with companies using Windows Mobile. Its main work is shepherding companies through the quirks of the cell phone market, such as helping them choose from idiosyncratic cell phone plans.

Companies can build their own interfaces to extend applications to mobile phones, use a variety of middleware platforms or turn to integrators to do the job.

Enterprise Mobile helped Burkhart with security and user-interface questions, like what to do when a phone is lost and how to present data on a 2-inch-by-2-inch screen.

Delta Air Lines, meanwhile, used iAnywhere's Information Anywhere suite, which includes the Afaria mobile management tool and Onebridge development environment and middleware products, to develop a way for its field operations workers to use handhelds, instead of network-attached PCs to check their e-mail or update service tickets.

The tools, deployed in late 2007, let Delta's field-service workers exchange data directly with the company's back-end servers, using Motorola mc35 Windows Mobile handhelds, says Rich Meurer, advisory engineer at Delta.

In a different project, Delta added a mobile application for baggage tracking this year, using Motorola m9090 handhelds, which use a different version of Windows Mobile.

Where as iAnywhere's tools are geared toward developers who are writing specific applications from scratch, Vaultus—which is used by Genzyme—has developed a series of templates that an IT department can customize. Other mobile middleware providers take different approaches: For example, Vettro specialized in putting hosted applications on mobile phones, and Syclo is focused on manufacturing apps.

Genzyme chose Vaultus when it decided to bring its European sales representatives online. The company was already using the BlackBerry and was looking to them to provide its sales representatives in Europe with e-mail. Executives decided to make Genzyme's customer relationship management system (Sage Saleslogix by Sage Software) available on the devices as well, says Seppo Beumers, application manager at Genzyme in Naarden, the Netherlands.

The sales representatives typically work as field advisers. They need to make notes on questions and requests for follow-up and then put those into a CRM system. But they typically don't have enough time with a doctor to use their notebook computers.

While Vaultus says a typical installation takes between three and six weeks and costs from $20,000 to $200,000, it took Genzyme about 10 months to deploy the application. The company spent about half a million euros, including the cost of about 200 BlackBerrys.

Beumers said the extra time was needed to translate documentation and training materials and find time to train the sales representatives.

The company got a return on its investment in about 18 months, based on time saved by sales representatives. Now Genzyme in Europe is looking at using Vaultus to add more applications to the mobile phones, probably starting with corporate reporting tools.

Says Genzyme's Beumers, "I'm thinking that these mobile devices will be more important than your laptop."

Michael Fitzgerald is a freelance writer. To comment on this story go to *www.cio.com/article/451091*.

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Another Small Step for RFID?

Nine West tries on item-level tagging, despite difficulties

BY THOMAS WAILGUM

SUPPLY CHAIN | Jones Apparel Group announced recently that its Nine West division will soon start an item-level trial program using radio frequency identification (RFID) technologies.

The goal of the pilot in select Nine West stores will be to study the benefits that item-level RFID provides in the areas of enhanced productivity, customer service and inventory accuracy, say Jones Apparel executives.

Nine West is following in the footsteps of many other retailers and consumer-product goods manufacturers—including Wal-Mart, Procter & Gamble, Gillette and Kimberly-Clark—in trying to extract critical logistical data to deliver to supply chain and merchandising functions. But success with RFID in today's retail supply chain has been spotty, even more so at the item level. Recently, analysts and researchers have raised new questions about the technology's value and performance.

Can RFID Perform?

A Forrester Research report on the ROI of RFID for supply chain visibility noted that "amid the hype, the business value of deploying RFID technology across trading partners has been blurred by questions about costs, benefits and scope, and answers are elusive."

Economics of the tag costs relative to the value of the item being tagged continue to dog manufacturers, notes the report. Lack of ROI has been a complaint of suppliers to Wal-Mart, although Wal-Mart this year reconfirmed its commitment to its five-year RFID push. The company told its Sam's Club suppliers they could face fines of $2 to $3 per nontagged pallet for not attaching RFID tags to their shipments to a Texas distribution center.

> The more items an RFID reader has to scan, the less successful it is. "Read rates degrade, in most instances, by the number of items on the fixture [or] in the box." –RFID Research Center, University of Arkansas

Meanwhile, a recent study by the RFID Research Center at the University of Arkansas found several challenges related to the performance of the technology. According to the study, not all tags and RFID tag readers are created equal. Researchers found a "wide range of read rates based on tag type and reader type." In addition, tag placement on merchandise was critical for success. Standards for where to place tags on items to ensure proper readability are key, researchers conclude.

Most revealing, however, is the finding that the more items a reader has to scan, the less successful it is. "Read rates degrade, in most instances, by the number of items on the fixture, in the box, etc.," noted the study. "We varied the number of items to provide a breadth of read rates and perhaps a realistic preview of actual use."

No matter the difficulties, executives at Jones Apparel decided that RFID has matured enough to try it. "We believe it has reached the point where launching a pilot program of this nature makes sense," says Norm Veit, executive vice president of MIS with the company.

Vendors involved in the Nine West pilot include Vue Technology, which will provide the RFID software and system management solutions; Motorola's Enterprise Mobility Business, which will provide fixed and handheld RFID readers and antennas; Avery Dennison, which will provide RFID tags and printers; and inCode Wireless, which will provide installation and integration services and—along with retail business consulting company RFID Sherpas—will perform operational and business case analysis. CIO

Senior Editor Thomas Wailgum can be reached at *twailgum@cio.com*. To comment on this story go to *www.cio.com/article/444546*.

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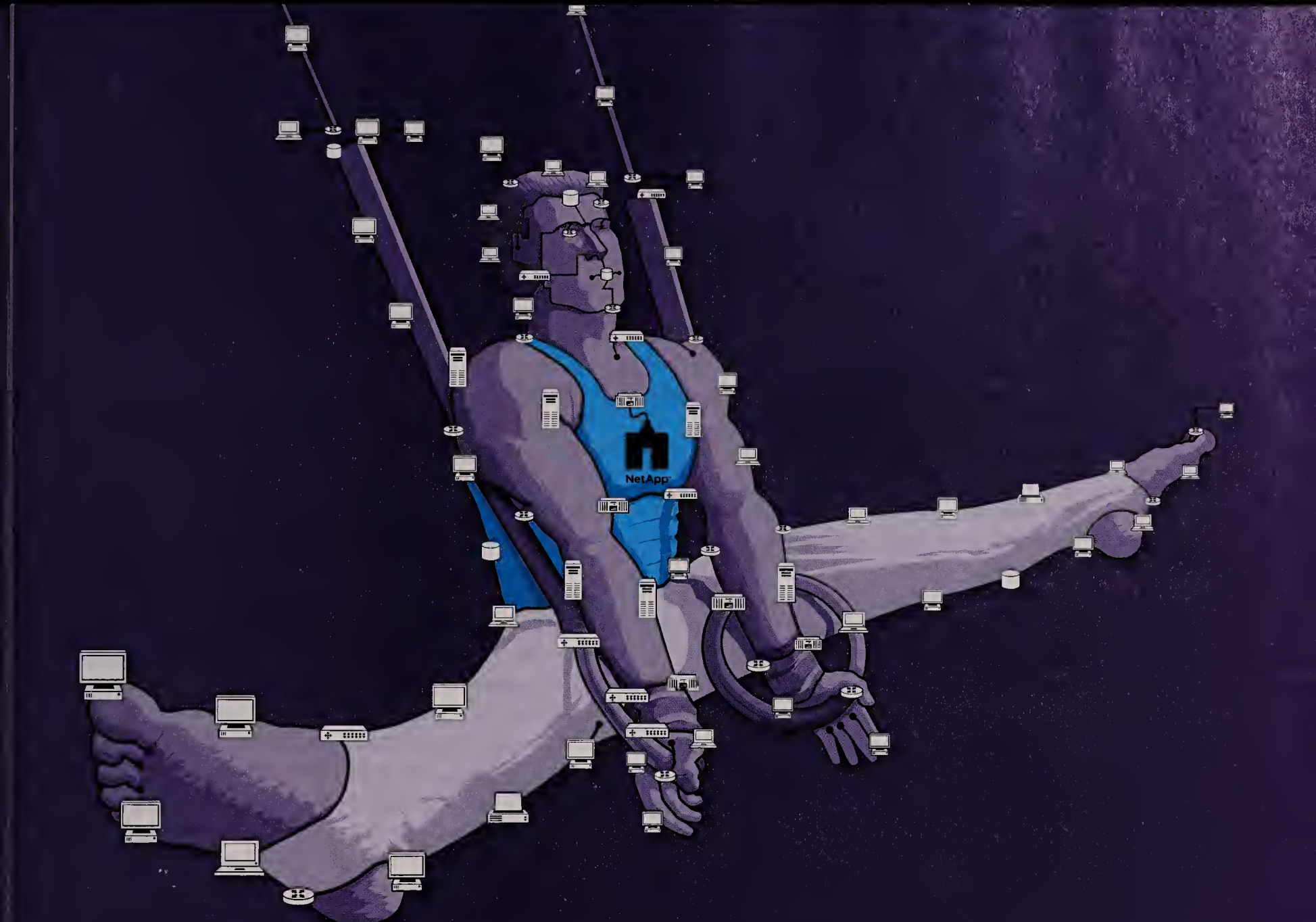
Want to get closer to the business? The SVP of technology and operations represents an opportunity for IT leaders to push for organizational integration.

I have always found the phrase "IT and the business" to be ironic. "And" typically connotes connection and unity, yet in this context, it is a divider. IT, this phrase suggests, may work alongside and support the business, but it is certainly not one and the same. But now that companies are getting smarter about IT's importance to the business, there is a new "and" in town. The SVP of technology and operations role is springing up in all sorts of industries. It represents not only a new level of organizational integration between IT and the business but a new career opportunity for CIOs as well. Some heads of tech and ops preside over a newly merged organization and others keep the organizations separate but have accountability for both. I spoke with three such ambidextrous executives to gain their perspective on the role.

Pat McNamee joined Express Scripts, a $19 billion pharmacy benefits management company as SVP and CIO in 2005. Two years later, he was named SVP of operations and technology, responsible both for IT and for client and patient services. Less than a year later he was promoted to EVP of operations and technology. In his current role, McNamee runs an integrated organization of 1,200 IT staff and more than 5,800 operations staff responsible for making sure the company's 40 million members receive their prescriptions on time.

"In IT, we had improved our reliability and our ability to develop new applications. But there was still a disconnect between the capability of the systems and their impact on operational effectiveness," says McNamee. "So our CEO made the decision to integrate IT with operations, and he made me accountable for the whole thing. His thinking was that we could accelerate change and improve processes more quickly with a team that is focused on an integrated set of objectives."

Case in point: Prior to the integration of operations and IT, regionally distributed operations groups were using unique applications instances, and every regional GM had his or her own order management processes with unique metrics.



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"When we merged IT and operations, we looked across all of the sites and found the five or six best practices on turnaround time and defect reduction and built an applications road map across all of the regions. We then held the GMs accountable for the new standards," says McNamee. "Having an integrated approach and control over so many levers put our process improvement on steroids."

McNamee's advice:

Turn a cost center into a corporate investment. In addition to knowing the business and building relationships, McNamee points to something more specific.

"As CIO, you are responsible for a significant spend in IT. If you can build a process for engaging the company in how most strategically to spend that money and bring a return on that investment, the discussion moves away from mainframes and infrastructure and you become a leader in driving operational improvements," he says. "If you build a successful governance process, you have just worked your way up to the point of controlling a corporate investment that drives business value and revenue." Less an order taker and more of a business driver, you are one step closer to the integrated role.

The SVP of technology and operations role is springing up in all sorts of industries.

Mark Goldin joined the financial services company Green Dot as CIO in 2005. Six months later, he added customer care, retail production, logistics, supply chain and sourcing to his plate and became CIO and EVP of operations. In January, CEO Steve Streit wanted him to increase his strategic role and made him chief operations and technology officer.

Green Dot is a rapidly growing company. With customer activity increasing, call center operations were struggling.

"It was unclear to our CEO whether our call center issues were due to systems problems or operational management, so he wanted one executive to be accountable for both," says Goldin. "Once I moved into the new role, I sat down with the VP of customer care and we designed a call center strategy for redundancy and scale. We sorted out staffing and turned the corner on service levels."

Goldin's advice:

Hire a CIO. IT people represented more than 70 percent of Goldin's newly inte-

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grated organization so some of the senior call center managers thought, Now I work for IT. "That is not the perception that I wanted," says Goldin, "but I was reluctant to let go of the CIO role. Were I to have hired a new CIO, it might have been clearer that IT was not absorbing the call center but that we were integrating."

Go for the sudden impact. As head of IT and ops, you have a number of opportunities to add value. But, says Goldin, "You want to choose areas where you can make a quick impact. Having had the initial call center success, I felt I had time to focus on other issues like reducing cost. The call center bought me time to tinker with areas that I understood less."

From 1993 to 2000, Rob Autor was CIO for Nellie Mae, a Massachusetts-based student-loan provider. He joined Sallie Mae following its acquisition of Nellie Mae in 1999 and has served in a number of senior roles, including vice president of consumer operations and CIO. In late 2007, Autor was named EVP of operations and technology and heads up the company's loan origination, servicing and call center operations, corporate procurement and IT. He also has full profit-and-loss responsibility for the company's guarantor services business and financial institution sales. With these business lines and a CIO reporting to him, he is responsible for reducing costs by 20 percent and for restructuring the business in response to the College Cost Reduction and Access Act.

To Autor, giving accountability for IT and operations to one executive makes good sense for Sallie Mae. "Both IT and our loan servicing operations are service organizations, and both require a strong degree of process discipline and design," he says. "When so many of our customers experience us through our technology, it is important to look closely at how both organizations can work together for a seamless customer experience."

Autor's advice:

Get both IT and ops under your belt. "I have moved between business and IT roles and deliberately made choices to broaden my experience," he says. "When I had some IT consulting under my belt, I went into business consulting. When I took on the CIO role at Nellie Mae, I took on operations responsibilities as well. The great thing about IT is that it gives you the opportunity to demonstrate that you can deliver on big, broad, complicated, expensive projects. Make the most of that exposure." CIO

Martha Heller is managing director of the IT Leadership Practice at the ZRG, an executive recruiting firm in Boston. Reach her at *mheller@zrgroup.com*.

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Secrets of PMO Success

A CIO shares how he built a project management office that partners with the business and positions IT as a strategic player

BY MERIDITH LEVINSON

What's the most important factor in creating a strategic IT department that partners successfully with and is respected by the business? For Phil Bertolini, CIO of Oakland County, Mich., it's effective project management.

Project management practices have helped Oakland County's IT department gain the trust of the business. Bertolini should know: He has been on both sides of the project management fence—as a customer of the county's IT department and now its leader.

Bertolini was named director of IT for the county in 2001. At the time, IT was viewed as black hole, and the county's elected board of commissioners referred to Bertolini as "Mr. Money" because IT was always asking for funding.

How times have changed. In 2005, Bertolini became the county's CIO, an important step for Oakland County. County Executive L. Brooks Patterson saw the need to elevate IT higher in the organization. The CIO role is coupled with the Deputy County Executive role to give IT higher standing at the executive table.

Reader ROI

- Why your project management office needs to have a clear rationale
- How a PMO can help manage customer expectations of IT
- Common project management mistakes

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Phil Bertolini, CIO of Oakland County, Mich., says it's important to avoid creating a project management police force that reports to the CIO on everything everyone in IT is doing wrong.

Since then, Bertolini has enhanced the IT department's project management office with staff, training and new tools. The moves have provided much improved visibility into the IT department's work while keeping costs down. And the improved project management has made the IT group more strategic to county government.

The project management software (CA's Clarity) gives Bertolini the information he needs to explain to the board of commissioners why IT needs so much money (Oakland County's IT spend is six percent of the county's $700 million budget), what projects all that money is funding and the status of each of those projects. The CIO is able to show the commissioners exactly what everyone in the IT department has been working on each day for the last two years. The software gives him that much detail and visibility.

But it's not just about bean counting. Project management is

PHOTO BY RACHEL HOLLAND

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Tracking Data Center Assets with RFID Technology

HP uses RFID to improve management and savings

Frank Lanza
WORLDWIDE DIRECTOR FOR RFID SOLUTIONS, HEWLETT-PACKARD

CHARGED WITH DEFINING, MARKETING AND SELLING HP'S RADIO FREQUENCY IDENTIFICATION TECHNOLOGY (RFID) SOLUTIONS, LANZA IS LEADING ONE OF HP'S NEWEST INITIATIVES.

In today's data center, asset management is becoming critical as organizations may have thousands of servers in multiple data centers across a wide geographic domain. Using the power of RFID technology, the assets within these data centers may be optimally managed, and the savings can be substantial.

How would you describe HP's Asset Tracking service for data centers?

HP Asset Tracking Solutions for Data Centers maximize control over critical IT assets within data centers and, ultimately, create a safe environment. Our RFID technology allows customers to enhance inventory and tracking functions of IT assets within the data center. For instance, HP's technology enables the tracking of servers, media libraries and personnel as well as the physical monitoring of a facility. And that provides better visibility into movement of critical assets within the data center at both entry and exit points.

What are some key benefits for enterprise CIOs using asset tracking?

HP's asset tracking solutions afford minimal capital investment and short return on investment cycles. Payback comes from lower operational costs, improved asset utilization, reduced manpower requirements and increased speed and flexibility. That efficiency allows companies to redireet budget resources toward innovation rather than maintenance. The bottom-line business result is improved security, operating procedures and compliance throughout an enterprise.

> "We developed a solution encompassing middleware, active tags, tag readers, and antennas that reduced asset theft by almost 100 percent."

What technologies and devices does HP employ to track assets?

RFID technology is configured to match specific business needs. Its components include RFID asset tags, antennas, readers, middleware, and applications. Tags are configured to hold key asset information. Tag readers include doorway portals, mobile cart scanners and handheld scanners, each of which performs various inventory and tracking functions. Middleware controls the RFID devices and passes data to the configuration management database. Tag printers are connected via middleware to ensure authorized asset tag generation and decommissioning.

Do you have any solid examples of how asset tracking has helped IT organizations?

Our services helped a global bank track some 20,000 servers and 300,000 pieces of media. In another case, we helped a company in the oil and gas industry control its IT assets in field offices, after $100,000 worth of IT assets disappeared. We developed a solution encompassing middleware, active tags, tag readers, and antennas that redueed asset theft by almost 100 percent.

How does HP address a CFO's need for cost justification and measurable ROI?

We use several financial measurements to determine if the investment can be financially justified. These include financial cost savings and cash-flow savings over the asset's life cycle, the payback period, the net present value of the investment, and its internal rate of return.

FOR MORE INFORMATION:

Download a copy of the HP white paper titled **"Information technology asset management through Radio Frequency Identification (RFID)"** at **www.cio.com/whitepapers/hp-asset-management.** Further information may also be found at **www.hp.com.**

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also helping the county cope with an economic downturn that, as of Sept. 17, has left 8.5 percent of the state unemployed—the highest unemployment rate in the U.S.—and resulted in a massive revenue shortfall for the state.

"We've kept the IT budget flat or have reduced it over the last seven years. This year we're taking $1.5 million out of operations and $4 million out of our capital plan, yet we're still able to deliver to our customers," says Bertolini. "We can be strategic because we can plan effectively, manage and measure customer expectations, and because we use good tools to do that."

Bertolini operates in the public sector, but the lessons he's learned also hold true for private-sector CIOs. Here, he offers his advice for creating a successful project management office and for selecting the best project management software for your organization's needs.

1 **Know** what you're trying to accomplish.

When Oakland County's IT department first put its project management office in place in 1997, it had clear tactical and strategic goals: to better prioritize projects with business partners and to make the business side of government more effective through technology.

Bertolini says it's important to have a clear rationale for creating a project management office for a number of reasons. For one, formal project management offices aren't always necessary—or even right—for organizations. If you just want to track projects, for example, you may be best served by a simple project-tracking application. But if you want to improve how projects are done and get more control over the prioritization process, a well-run PMO can help with both. (Read "Put a Spin on Project Success," Page 40.)

"If you want to change your culture and the way you do business, put a PMO in place," says Bertolini.

What's more, few people inside and outside of IT are going to like the idea of a central body in charge of approving and rejecting projects, reporting on metrics and cracking the whip on managers to keep projects on track. IT staffers and internal customers will challenge your effort to create a PMO. To get their support, you need a clear justification for setting one up that doesn't include the desire to increase bureaucracy.

Finally, instituting a project management office and associated project management processes often require a significant time and financial investment. It can take a few years to get things in place. People will tire of the effort. When they ques-

Wanted: Star Project Managers

Look for strong people and leadership skills when hiring

THE BEST PROJECT MANAGERS are those who consistently deliver projects that are on time, within budget and meet or exceed stakeholders' expectations. They understand that leadership and people skills are even more important to good project management than a sound methodology and project tracking tools, says Fumi Kondo, managing director of Intellilink, a management consulting, coaching and training company that specializes in technology implementations.

"The more experienced project managers understand that if you don't get the people side of project management, it doesn't matter how good your methodology or your tools are," says Kondo. So what soft skills are necessary to a top-notch project manager? Intellilink analyzed the skill sets of its own best project managers and those of its clients, and came up with the following six attributes, which comprise its PeoplePM Workshop Series.

» **They possess the gift of foresight.** Good project managers are able to anticipate and head off problems that can jeopardize deadlines, budgets and user acceptance.

» **They're organized.** Organization seems like an obvious characteristic, but it manifests itself in a variety of ways, including in an ability to stay focused on the big picture and to prioritize competing responsibilities. "Being able to prioritize work for your team is a critical aspect of what a project manager has to do," says Kondo.

» **They know how to lead.** Project managers interact with and influence a variety of stakeholders including their project teams and project sponsors. Since many project team members don't report directly to the project manager, the PM has to find ways to motivate workers whom they have no direct influence over and who can make or break a project. Project managers also need to be able to inspire the confidence of stakeholders and sponsors in the event that the budget or time line needs to be renegotiated, or additional resources are needed to complete the project.

» **They're good communicators.** Successful project managers effectively use e-mail, meetings and status reports to communicate their ideas, get decisions made and resolve problems, says Kondo. They also understand that they need to discuss their project in the context of whatever is most important to their audience.

» **They're pragmatic.** Sometimes project managers can be too analytical. Good project managers focus on getting work done with the available resources.

» **They're empathetic.** "Project managers rely on others to be successful," says Kondo. Project managers can't effectively influence others if they don't understand what motivates their stakeholders. They need to learn stakeholders' concerns about a project, take those concerns seriously and address them.

–M.L.

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Stimulating Innovation: Meeting IT's New Mission

Business innovation results when an IT organization has a measurable impact on the corporation. But before attaining that state, many IT organizations must transform themselves.

Want to see an opportunity to drive innovation in IT and deliver business value? Look for the IT organization focused on strategic cost takeout and IT optimization.

That's one lesson learned from a recent survey[1] commissioned by BearingPoint, Inc.: 66 percent of the 150 CIO respondents said that reducing costs is a driver for innovation.

Moreover, according to the survey, IT organizations that have a sound cost-takeout strategy are more likely to rate themselves highly when it comes to driving innovation.

Cost Reduction + Innovation: The Virtuous Circle

The mission of today's IT leader has expanded to include responding to the ever changing business need of staying competitive in the global marketplace. CIOs must not only focus on optimizing how they manage, deploy and improve information technology but must also concentrate on initiatives that advance the strategic interests of the business to drive measurable value.

One strategy many implement is reducing costs and investing some of the benefits from the cost reduction into innovative ideas that will generate enhancements to the business. "Ad hoc cost takeout is often not durable," says Pierre Champigneulle, a managing director at BearingPoint, a global management and technology consulting company. "But when it results from a joint business and technology strategy, it can become sustainable and an enabler for innovation," he adds.

Successful IT leaders must develop a keen awareness of business goals so they can effectively align their IT cost-takeout strategy with the business strategy. When they achieve this, they will be able to identify non-value-added initiatives and, in turn, implement a cost-takeout strategy that decreases the costs of operations.

Cost Takeout = Collaboration = Innovation Success

When CIOs play a key strategic role in business initiatives, their IT organizations will be viewed as more effective and gain credibility. Optimizing IT through the implemention of a sound cost-takeout strategy can be a winning combination as CIOs prove they can manage their organizations successfully, and can help the business as well.

The survey also reveals that a strong partnership between the business and IT is a requirement for stimulating innovation and creativity. Business is moving too fast for companies not to consider business goals and IT operational models simultaneously. It's important to effectively integrate operational and technology teams to advance the business and optimize IT.

Collaboration between IT and the business is critical—and a strong bond between the two is essential for the success of the business. However, such alignment is still a goal rather than an achievement for many. The survey points out that just 9 percent of respondents say they are extremely effective at maintaining collaborative relationships between IT and business groups and just 11 percent of respondents said they are extremely effective when it comes to having a commitment from IT to understanding business goals and objectives.

Vital Opportunities to "Make it Happen"

Process Optimization. The survey points to other key indicators of how cost control and innovation go hand in hand. Process standardization and automation are mentioned as one of the primary opportunities to reduce costs while bringing a superior level of service to the business and enhancing productivity.

IT Governance. Additionally, getting the right governance model in place also plays a critical role in stimulating and leveraging innovation. IT governance is of particular importance when it comes to deciding which ideas get funded and making sure that sound business cases for innovations are developed.

"CIOs are tired of cutting costs. And since the challenge of containing costs is not going away anytime soon, CIOs have an opportunity to get the benefits out of it by managing their portfolios and developing a business case for using cost savings for enterprise innovation," Champigneulle says.

[1] Survey research commissioned by BearingPoint, conducted by IDG Research Services, May 2008.

Learn More

BearingPoint's CIO Business Advantage solutions help IT establish the cost controls and the collaborative foundations that allow it to align its focus with business needs and promote its services. To learn more about how BearingPoint is helping organizations stimulate innovation, go to www.CIO.com/whitepapers/BearingPoint

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Put a Spin on Project Success

PMOs can play an active role in managing sponsor and stakeholder expectations

THE METRICS COMMONLY USED by organizations to determine whether an IT project is a success—whether it is on-time, on-budget and delivering the initial requirements—do more harm than good for IT departments, according to a report from Forrester Research.

Organizations use these metrics because they're easy for business people to understand, writes principal author Lewis Cardin in "Debunking IT Project Failure Myths." But these metrics are problematic for IT departments. In a way, Cardin suggests, they set up IT departments for failure.

The problem is that these metrics perpetuate the idea that a project is a failure unless it is completed according to the initial schedule, budget and requirements, says the report. However, such metrics fail to account for the mercurial nature of project management and delivery.

To put a different spin on the situation, Cardin recommends that project management offices (PMOs) play a more active role in managing project sponsors' and business stakeholders' perceptions of success. How?

» **Keep project-steering committees on task.** Cardin notes that projects often stall when the steering committee providing governance for the project fails to make decisions or solve problems.

» **Improve communication with project sponsors.** Tell them about changes in requirements and the impact on the budget and time line. This will keep them from viewing projects as failures when requirements and costs change.

» **Improve project plan reliability.** PMOs should establish best practices for developing project plans that involve "significant unknowns." This can help the PMO set business sponsors' expectations for reasonable project performance and reasonable actions for a project manager to take under different conditions.

» **Communicate cost, schedule and resource estimates.** PMOs must articulate how they come up with estimates for a project's cost, schedule and resources; how those estimates are based on business conditions; and how changing conditions impact a project's cost and time line.

–M.L.

tion the time and money required to set things up, you need to have a clear answer, says Bertolini, or else you risk seeing your project management effort dismantled when your organization needs to cut costs.

2 **Get** executive sponsorship.

Bertolini was working as Oakland County's head tax assessor in 1997 when IT first put in place its project management office. He says he didn't like having to battle and make business cases for IT projects that his office needed done. He wanted to simply call up the IT department and "place his order," as he had done previously.

"As a customer, I was always trying to find ways to game the system or get my project done," he says. "If I was able to circumvent the process and go to someone else, it would break down."

Bertolini was never successful at gaming the system largely because Patterson put his full weight behind it. "The county executive said, 'You will do this and here's why.' There was no getting around it," he says.

In addition to getting everyone to follow the new process, Bertolini says executive sponsorship will also ease the change management challenges that come with instituting new project management processes inside and outside of IT.

"It takes a great deal to make this work. You have expense on the hardware and software side. You have to train people internally. You have to change your culture. You have to change the culture of the customers or partners you serve. That takes time and effort. If your executive sponsor doesn't see it as worth the time to get there, you won't."

3 **Create** a reporting relationship for the project management office.

The project management office within Oakland County's IT department reports directly to the CIO. Bertolini says the IT director who was in charge of the department before he came on board wanted the PMO to report to him so that groups within IT couldn't influence it.

By having the project management office report to the CIO's office, it truly becomes a central place for project management and mentoring. It also ensures that standards and process changes happen at the highest level inside the organization, says Bertolini. (Read "Errors of Omission," Page 42.)

4 **Put** the PMO in charge of process, not punitive measures.

When you create a project management office, you want to be careful that you don't create an organization of project management police that reports to the CIO on everything everyone in IT is doing wrong, says Bertolini.

"The PMO has to be able to mentor people in your organization. They have to be the ones people seek for assistance," he says. "If I'm a project manager and I'm worried that the PMO is going to squeal on me and tell the CIO I'm not getting my work done, I'm not going to go to the PMO for help."

Bertolini adds that combating the impression in an IT organization that the PMO is the project management police can be

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difficult. So he's emphasized the PMO's role as the keeper of the process and as a mentor to project managers (Read "Wanted: Star Project Managers," Page 38). Instead of reporting to the CIO on what's wrong, the PMO provides project managers with tools to find out what's late, what's on time and what needs work.

5 **Select** project management software with your end goal in mind.

Bertolini's advice for creating a project management office also goes for choosing project management software.

Just as you need to know what you're trying to accomplish by establishing a project management office, you need to have a clear end goal in mind so that you can buy software that will take you there. For example, since the IT department in Oakland County wanted its internal business customers to play more of a partner role in making project decisions, Bertolini says the organization needed a tool that would enable the IT organization to communicate better with its customers.

Bertolini advises IT leaders to consider the project management process they wish to put in place before choosing the software. You want whatever project management tool you implement to support your process. "If you're putting in technology for technology's sake, you're doing this wrong," he says. "If you don't have the process around the technology, it's just a spreadsheet. It really doesn't manage anything."

When looking at different applications, make sure the functionality meets your process needs and over-arching goals now and into the future, says Bertolini. Your PMO may start out small, he adds, but you will grow it as you see the benefits it brings to your organization. You don't want to have to forklift out a solution you bought for a one-person PMO when it grows to six people. "Look to the future when you select software," he says, not just to the dollars and cents.

Additional Resources

For more about **PROJECT MANAGEMENT**, go to **www.cio.com/article/40342**.

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Another factor to keep in mind is integration, says Bertolini. You don't want standalone solutions that you need to integrate. "We look for companies that have multiple tools that integrate together so we can bring in new functionality as we grow and so that we know we'll be able to pass data between them easily," he says.

Finally, choose a vendor that offers a true project management solution, not just software. Bertolini says the county's previous IT director chose software from ABT because it emphasized the importance of good project management processes to maximize results.

"If you don't have a good process, you're not going to get good results," he says. CIO

Senior Editor Meridith Levinson can be reached at *mlevinson@cio.com*.
To comment on this article, go to *www.cio.com/article/407313*.

Errors of **Omission**

Project management software vendors tell how to avoid three common mistakes

Only 35 percent of IT projects are completed successfully, according to The Standish Group. One cause? Project management consultants and software providers say they see IT groups make the same project management mistakes over and over: They don't define scope. They overlook project dependencies. They don't assess the risks that could imperil their projects. The list goes on.

Such mistakes can be fatal. They can also be avoided.

PROBLEM: Failure to Define Scope

If a project's scope isn't well-defined by the business and IT up front, it can balloon like "Friends" actor Matthew Perry in the sitcom's later seasons. What's more, IT lacks the clarity and direction it needs to complete the project on time and on budget.

SOLUTION: Ill-defined projects are best served by a business case and a scoping exercise, says Fumi Kondo, managing director of consultancy Intellilink Solutions.

PROBLEM: Overlooking Project Dependencies

Projects don't happen in isolation. They're often dependant on other projects going on at the same time. When project managers fail to see these overlaps—such as staff assigned to one project who are needed on another—projects get held up.

SOLUTION: Take dependencies into account during project planning, says Douglas Clark, CEO of Métier, a provider of project portfolio management solutions. Talking with stakeholders and diagramming the project can help uncover dependencies.

PROBLEM: Murphy's Law Kicks In

Stuff happens, and IT gets surprised by it. Consequently, the project goes off-track.

SOLUTION: Perform a risk assessment as part of the project planning. Then figure out how to mitigate those risks, says Joel Koppelman, CEO of project management software vendor Primavera. "This exercise doesn't take a long time, and it's enormously helpful in understanding the soft spots in a project before it even gets underway."

–M.L.

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Virtualized Security: Unburdening Users

Mobile devices in the workplace create the need for a new security model

Ed Amoroso, CHIEF SECURITY OFFICER, AT&T INC.
Amoroso oversees AT&T's overall network and computing infrastructure protection, security policy and planning. He is also engaged in security and operations support for several AT&T divisions.

Like it or not, we've all become security administrators. But with mobile computing on the rise, it's time to unburden the masses by "virtualizing" security. Amoroso offers insight on how to do so.

What are today's biggest security threats?

First, there is a lot of sensitive, personal information contained in business applications. Almost every IT professional is working to reduce the risk of that information being mishandled. The second big threat is botnets on the public Internet. Malicious intruders, hackers and even terrorists are getting very good at harnessing the power of PCs and aiming them at unsuspecting victims. It has become so easy and rampant that the risk has grown exponentially.

How are hackers causing damage?

For a while, hackers were taking advantage of the fact that most businesses were not doing a good job of patching their operating systems. But patching has improved dramatically across the global infrastructure. So attackers now use phishing or pharming approaches, whereby an unsuspecting victim is pushed off a website and malware is dropped onto machines—even those that are properly patched.

What is virtualized security?

This refers to protection—for example, a firewall—that has been moved into cloud computing with ubiquitous access and someone else managing it. Virtualization removes the local need to invest in capital, manage hardware and tend to day-to-day administrative activities like support, upgrades and technology refreshes. It eliminates the obligations that come with security done in a nonvirtual sense.

Why should CIOs consider virtualizing security functions?

First, security has been distributed to the point that just about everyone is a security administrator and we've all grown weary of the task. It's time to step in and provide some relief. Second, mobility is becoming more intense as we march toward 4G. Just consider the ubiquity of the phone and then extrapolate that connectivity to the laptop. Suddenly the idea of a perimeter around the enterprise network doesn't make sense. With half of us on mobile phones, corporate policy can't be imposed through the PBX—so it has to be virtualized.

> "As mobility becomes a greater component of the computing equation, we need to virtualize, centralize and amortize security."

As mobile communications expand, what are some key considerations?

As mobility becomes a greater component of the computing equation, we need to virtualize, centralize and amortize security to simplify what needs to be done on the device. Keep in mind that mobile devices turn over at a greater rate than PCs; users are always eager for new features and functionality. That's exciting for the user, but a challenge for IT. By virtualizing mobility, IT has better management control and can help individuals feel energized about their phones and be more productive.

What advice would you offer CIOs as they plan security architectures?

Over-reliance on security models that appear comfortable and familiar is the kiss of death. For example, over the years IT managers have become reliant on firewall technologies to keep the bad guys out while letting the good guys in. But, that's only part of the security puzzle today. Moving forward, there is no comfortable, familiar model. Defenders need a vibrant kind of discipline and must be willing to shift with the times. Hackers aren't using the same technology they used 20 years ago, nor should we.

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The Sixth Annual

GLOBAL STATE of INFORMATION SECURITY

BY KIM S. NASH

THE GOOD NEWS

You've beefed up your IT security arsenal, and you're focused on compliance. But you're still vulnerable. Here's why.

THE BAD NEWS

Not to be alarmist, but **WAKE UP, PEOPLE!** Our information security is, in many ways, failing.

Ask the 11 alleged hackers charged in August with breaking into TJX and other retailers by way of insecure Wi-Fi. Forty million credit and debit card numbers were stolen. Ask the Medicaid claims processor at the outsourcer EDS. In February she pleaded guilty to stealing Social Security numbers and dates of birth, and selling them for use on fake tax returns. Ask the courier hired by the University of Utah Hospital to take backup tapes to offsite storage. One day in June, he used his own car instead of his company's secured van. The tapes, containing billing data for 2.2 million patients, were stolen from his front seat.

Reader ROI

- Why IT tools alone don't provide security
- Why regulatory compliance doesn't protect you
- Why you need to focus more on your employees and your data

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to free colleagues from the status quo.

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59%

have an **information security** strategy.

Or you could, as we did, ask 7,097 business and technology executives worldwide about their security troubles. In this, our sixth year of conducting the "Global State of Information Security" survey with PricewaterhouseCoopers, we got an earful about the challenges, worries and wins in security technology, process and personnel.

Quantifying returns on information security projects can be a struggle, often because it's hard to put a dollar value on a crisis averted. This year, a bad economy forces decision makers to squint even harder at proposals. Even so, survey results show companies are buying and applying technology tools, including software for intrusion detection, encryption and identity management, at record levels. That's pretty good news.

However—and this is serious, folks—too many organizations still lack coherent, enforced and forward-thinking security processes, our survey shows. While 59 percent of respondents said they have an "overall information security strategy," that's up just two points from last year and it's not enough, says Mark Lobel, advisory services principal at PricewaterhouseCoopers. Two elements, Lobel says, correlate with lower numbers of security incidents: having a C-level security executive and developing the aforementioned security strategy. But disappointing numbers piled up this year. (For additional stats see "The Global State of Information Security," Page 57.)

For instance, 56 percent of respondents employ a security executive at the C level, down 4 percent from last year. You comb network logs for fishy activity, but just 43 percent of you audit or monitor user compliance with your security policies (if you have them). This is up 6 percent from 2007, but still "not where we need to be," Lobel says.

As a result, security is still largely reactive, not proactive. More-sophisticated organizations will funnel data from network logs and other monitoring tools into business-intelligence systems to predict and stop security breaches. So along with encryption fanatics and identity management experts, an infosec team needs statisticians and risk analysts to stay ahead of trouble and keep the company name off police blotters.

Still, while our survey illuminates continuing problems, in discovering the problems, we also see a path to safer data for companies that, yes, apply technology but also develop processes and make them part of everyone's everyday work. So it's not all grim. What we have to do now is examine our failings, then act.

The Big Picture: Technology Reigns

Money really is power, isn't it? When asked to indicate any sources of funding for information security, 57 percent of survey respondents named the IT group and 60 percent cited functional areas such as marketing, human resources and legal as major providers. Just 24 percent indicated a dedicated security department budget.

With the IT group a strong force, technology becomes the answer to many security questions. To someone with a hammer, everything looks like a nail, according to the old saw. Divert potential phishing attacks with spam filters. Stymie laptop thieves by encrypting corporate data.

If there's a security tool out there, our survey pool uses it.

Companies have realized they must do a better job disposing of outdated computer hardware, for example, wiping disks of data and applications. Sixty-five percent of respondents now have tools to do that, up from 58 percent last year. More organizations than ever are encrypting databases (55 percent), laptops (50 percent), backup tapes (47 percent) and other media. Use of intrusion-detection software also is up: 63 percent this year compared with 59 percent last year. And installing firewalls to protect individual applications, not just servers and networks, increased to 67 percent from last year's 62 percent.

That's good stuff.

Despite these technology-oriented gains, though, disturbing trends continue in the areas of security processes and personnel—some negate any protection an IT budget can buy. For example, encrypting sensitive data makes good sense, but such technology can't stop an employee from flouting policies concerning how that data should be handled.

If the goal is to secure information, to make it truly safe, you'd better develop processes and procedures for putting your nails in the right place before whacking anything with a technology hammer. Technology must be part of a

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Market Pulse

Smart CIOs protect themselves against sour software relationships with technology escrow services, which ensure the integrity of their applications so that CIOs can sleep at night.

"Technology escrows are like 'prenups' for software vendor relationships," explains John Boruvka, vice president of intellectual property management at Boston-based Iron Mountain Digital.

62% of CIOs always or sometimes include escrow as part of their software agreements.

A technology—or software—escrow is a contractual arrangement under which the licensee requires its vendor to deposit source code into an account held by a third-party agent to ensure ongoing accessibility of the software. Value-added technical verification services provide assurance that escrowed media is usable if and when a release becomes necessary.

46% of CIOs consider it critical or very important that their escrow agreement includes the right to perform verification.

The high-tech industry is in constant flux thanks to the prevalence of mergers and acquisitions, layoffs and next-generation product releases, all of which make escrow arrangements increasingly important. In fact, **62 percent of companies always or sometimes include escrow as part of their software agreements,** according to a recent survey by Framingham, Mass.-based IDG Research Services.

"If you agree that escrowing mission-critical, complex and costly applications is important, then technical verification is a logical component of that process."

—Boruvka

"People are [asking for technology escrows] out of fear that their vendor will go out of business," Boruvka says, adding that historically, more software is released for loss of support due to an irreparable software glitch or a change in product direction—not a failing vendor.

So what exactly is being escrowed? Some 59 percent of IDG's survey respondents deposit their most critical applications, while 51 percent safeguard complex applications that would be difficult to replace. Meanwhile, 48 percent escrow applications that would be too expensive to replace.

"People naturally gravitate toward costly and big," Boruvka says, "but a process is necessary by which IT and legal work with the business owners to determine how software impacts the business."

Verification Services Are Key

Putting software in an escrow account makes code available in case of disaster. There is no guarantee, however, that the escrowed software is functional. That's why many CIOs are leveraging technical verification services to increase their confidence. Those verification services take escrow arrangements a step further by allowing CIOs to validate the integrity of their deposits by ensuring they can read the media and confirming that escrowed files are actually usable.

"One of the leading misconceptions in escrowing is the assumption that the escrow agent is doing something to technically verify the completeness and accuracy of the deposit," Boruvka warns. In reality, he says, even though there's a good faith intention on the part of developers to comply with escrow agreements, most escrow deposits are incomplete or require additional input.

Still, 46 percent of respondents say it's critical or very important that their escrow agreement includes validation/technical verification services by a third party. Without them, they admit, their businesses will suffer, as the cost of replacing software is high and the potential harm of a disruption in business continuity is great.

One thing is for certain: Respondents that verify their deposits show much greater confidence in their escrowed applications. Verification services serve the dual purpose of identifying and rectifying escrow deposit deficiencies, as well as educating developers on what constitutes a full and complete set of source code materials for escrow purposes.

"If you agree that escrowing mission-critical, complex and costly applications is important, then technical verification is a logical component of that process—whether it's performed by the developer, licensee, or an outside consultant," Boruvka says. "Without it, you're still at risk—escrow or not."

Go to www.cio.com/whitepapers/tech escrow to obtain a free download of the complete IDG survey results.

DIGITAL™ IRON MOUNTAIN

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larger plan to secure information, says Dennis Devlin, chief information security officer at Brandeis University. Devlin reports to Brandeis's vice president and provost for libraries and information technology.

Criminal activity becomes the focus of a lot of what we do in information security. Lock down the Wi-Fi to keep out the bad guy. (Got that, TJX?) But well-meaning people who make bad decisions inflict untold numbers of security incidents upon us, Devlin says. He's seen it at Brandeis, since joining last year, and at Thomson Corp., now called Thomson Reuters, where he was chief security officer for seven years.

For example, employees sometimes fall for e-mail scams and open attachments that unleash malicious software such as key-stroke loggers that record passwords and rootkits that take control of operating systems. Devlin says the job of security managers is to teach self-defense. Rather than warn employees to watch out for the latest e-mail scam bearing a specific subject line, for example, the idea is to teach people broader lessons about the risks of clicking on unfamiliar URLs, opening attachments or handing over Social Security numbers to anyone online, he says.

"It's not possible with technology to protect every individual from every possible security risk," he says. "Our job is to teach people to think the way we think."

Like Brandeis, more organizations seem to be trying that. This year, 54 percent of survey respondents said they provide employees with security awareness training, up from 42 percent last year.

But there's plenty of work to do. Just 41 percent of those surveyed require employees to undergo training on the corporate privacy policy and practices, up incrementally from last year's 37 percent. Forty-three percent of organizations—slightly higher than last year—don't take the simple step of posting their privacy policies on their internal websites.

Furthermore, what's taught at many organizations provides only a veneer of security, namely, compliance with government or industry regulations.

Checklist Security

Regulations such as the Health Insurance Portability and Accountability Act for medical data, Sarbanes-Oxley for financial data and the Payment Card Industry standard for credit card data continue to move executives to action. The threats of fines and jail time

Ways to Maximize Your Security Budget

Businesses are investing more in security. But what if yours isn't one of them? You can get more from the budget you have.

1. Keep on training.
Security consultant John Bambenek notes that there are plenty of open-source tools available for security shops that can't afford the latest and greatest defenses. Existing commercial tools can also be better-maintained or tweaked with the right scripts. But to make these things work, employees need constant training. "Trained staff know how to make the most of their abilities to get the job done, even without commercial tools," he says.

2. Increase security awareness.
An aware workforce can be enough to make the difference when you can't spend more money, says Ernie Hayden, a principal at 443 Consulting and former CISO of the Port of Seattle. Through training, education and continuous "rifle-shot guerrilla marketing techniques," a company can condition employees to be paranoid of e-mail attachments and URLs sent by strangers, or to be more cognizant of any trouble fellow employees may be up to.

3. Pay attention to morale.
Cut the red tape. Employees will be happier if it's easier to get their work done, notes Joseph Guarino, CEO and senior consultant for Evolutionary IT. And watch what you cut from your budget. When the money supply runs dry, employees understand if the free snacks in the office kitchen have to go away. But slice too deeply into discretionary expenditures like professional development programs, and employee morale will tank, says Richard Parry, head of global security for Novartis Institutes for BioMedical Research. In-house cross-functional training helps, too, by providing "interesting variations in their daily duties."

4. Simplify IT.
Cutting down on IT complexities and embracing security compliance controls will lessen the chances of a mistake-fueled catastrophe, says Atlanta-based strategic architect James DeLuccia. One common requirement of regulatory compliance is to reduce network complexities and redundancies so data can be better tracked and protected. Fewer complexities also mean fewer opportunities for a security failure, especially in an organization where staffing and tech savvy are in short supply.

Bill Brenner is a senior editor with *CSO* magazine. To read a longer version or comment on this story, go to *www.csoonline.com/article/403713*.

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tend to do that. For example, 44 percent of respondents say they test their organization for compliance with whatever laws and industry regulations apply, up from 40 percent last year; 43 percent say they monitor user compliance with security policy, a healthy increase from last year's 37 percent. Assessing internal risks to compliance is something 55 percent are doing, up from 49 percent.

But let's not pass around attaboys too quickly. Note that even with such positive steps, those numbers are far from 100 percent. Many organizations aren't doing much beyond checking off the items spelled out in regulations—and basic safeguards are being ignored, says Karen Worstell, a managing principal at the consulting firm W Risk Group, former chief information security officer at Microsoft, and former CISO and VP of IT risk management at AT&T.

Adhering to regulations and standards doesn't amount to thorough security policy, Worstell says, for many reasons. For one, organizations can sometimes pass compliance audits simply by writing up policies, without demonstrating how they adhere to them. Other times, the standard or regulation may have holes.

PCI, for example, mandates that a firewall be installed to protect cardholder data. But Worstell says the standard doesn't address whether a company has processes to ensure that once a piece of technology is installed, it's regularly upgraded or monitored to see how effective it is. "If security stops at PCI, that's not enough," she says. Hannaford Supermarkets experienced the theft of customer credit and debit card data from December 2007 to last March, a period when the grocery chain was certified compliant with PCI, "the highest security standards required by the credit card industry," the company says.

Neither is it enough if security monitoring stops within your own four walls. But that's exactly what's happening. A dirty secret uncovered in this year's poll reveals that companies don't know, and apparently don't care to know, what happens to their data once they hand it to another company. Get ready to be disturbed.

Outsourced Out of Sight, Security Out of Mind

Here's one of the most worrisome of our findings this year: A skimpy 22 percent of respondents keep an inventory of all the outside companies that use their data.

If that isn't enough to make you wince, we've got more. Just 37 percent of our survey respondents require third parties handling the personal data of customers or employees to comply with their privacy policies. Even fewer—28 percent—perform due diligence of those third parties to understand how or whether they safeguard information. Yet 75 percent of respondents profess at least some level of confidence in the effectiveness of their partners' security. Isn't that rosy?

Yet due diligence on any outsiders that handle your data is more important than ever as companies parcel out corporate work of all sorts to third parties, says Tom Bowers, managing director of Security Constructs, an industry analysis firm specializing in trade-secret protection technologies. In that respect, pharmaceutical companies can teach other industry verticals a great deal, he says.

Bowers was senior manager of global information security operations at Wyeth Pharmaceuticals for seven years before starting Security Constructs. Bowers's security group subjected potential Wyeth business partners to detailed scrutiny of their security practices. He had to. "We were responsible for protecting intellectual property no matter where it sat. Here or with an outsourced clinical trials company in Dublin. Wherever."

Ken Harris, CIO at Shaklee, says every company should make sure its outsourcers have the same security as its own—or better. "You vet the security and disaster recovery of your outsource providers in the same way you would vet your own operation," he says, adding, "It does take time and resources."

Companies skip this security check, though, because it's expensive and time-consuming, says PwC's Lobel. Checking

44% plan to **increase security spending** in the next year.

Something Else to Worry About

Read what blogger Mike Kavis has to say about the security challenges of SOA in **ARE YOU INSECURE ABOUT SOA SECURITY?** at **www.cio.com/article/447129.**

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Serious about Security

Nokia is a proven leader in providing reliable security platforms and support

Greg Podshadley
VICE PRESIDENT OF SECURITY, NOKIA

Podshadley is responsible for a $300 million enterprise network security business within Nokia. He manages all day-to-day operations as well as worldwide strategic planning for the security business unit.

Nokia is known as a stalwart competitor in the mobile market, but has also earned a solid reputation among high-profile security tech leaders—including those working with the world's top financial exchanges—as a proven provider of reliable security platforms and support.

Podshadley took some time to share an insider's view of Nokia's enterprise security solutions and services.

Describe the types of business security solutions offered by Nokia.
Our popular IP Security Platforms include firewall/VPN and unified threat management (UTM) appliances that extend all the way from compact branch office appliances to powerful multicore platforms for data centers at the core. Our Intrusion Prevention line adds context-based intelligence and network behavior analysis that's complementary to firewall security. We partner with best-of-breed software applications, like Check Point for firewalls and Sourcefire's SNORT engine for IPS, to provide integrated solutions with Nokia hardware platforms and IPSO operating system—specifically tuned for security.

What features separate Nokia's security appliances from its competitors?
Customers give us three reasons for choosing Nokia time and again: dependability, consistency, and choice. We have more than 10 years of solid experience in the security space. Customers appreciate the expanse of Nokia's security portfolio, simple migration paths, and ability to leverage investments. For example, customers can improve performance with our Accelerated Data Path (ADP) modules—instead of upgrading to a new platform.

Support is important for large enterprises, particularly when it comes to global installations. How does Nokia address the support issue?
When it comes to serving the complex requirements of businesses worldwide, we know that one size does not fit all. That is why we developed a variety of flexible support offerings with the ability to easily adapt as needs grow and change. Each service is designed to ensure maximum uptime and performance for security solutions, with a single point-of-contact that simplifies maintenance and support.

> "Customers give us three reasons for choosing Nokia time and again: dependability, consistency and choice."

In what ways is Nokia addressing management in its security offerings?
Nokia Horizon Manager is a good example of a tool that enables customers to deploy our firewalls quickly and easily across multiple locations. In fact, we have a new version coming out that reduces the time it takes to update policies—from an hour or more to a matter of minutes.

What types of new Nokia security products can CIOs expect this year?
No matter how the market continues to shift, our focus on security solutions will continue, with the addition of more intelligence throughout the portfolio. By intelligence, we mean ways to help our customers gain a stronger understanding of their network through capabilities like traffic monitoring and context-based IPS.

This year especially, it's important we enable customers to unburden their staff even further, whether by automating more firewall tasks or building in time-saving tools, such as the configuration migrator in IPSO 6.1, capable of transferring all firewall settings during an upgrade.

Increased demands on networks require intelligent traffic monitoring but also easier ways to manage security. And of course, access to technical professionals as complexity grows. These are all areas we plan to deliver to as we continually evolve our solutions to meet the needs of demanding customers.

FOR MORE INFORMATION:
See the white paper, "The Case for a Specialized Security Platform." Download at: **www.cio.com/whitepapers/NokiaSecurity.**

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Only **24%** classify the **business value of data** as part of security policies.

out a partner's security and privacy practices would take at least one full-time employee at least two days for the smallest company, he estimates. "A large company may have literally thousands of partners," he says.

Protect Information, Not Just Systems

Where data is and where it's going constantly worries information security managers. Thirty-eight percent of the managers we surveyed said they experienced one to 49 security events in the past year, and another 35 percent say they don't know whether they have been hit. Those figures are close to last year's results.

Among those in our survey who experienced incidents, 39 percent found out about them via server or firewall logs and 37 percent used intrusion detection or prevention systems. But a significant number—36 percent—say a colleague clued them in. These figures reflect an unchanging trend showing that the human element is just as important as any technological one when it comes to good security. More evidence of the need for diligent and repeated employee training.

Investing employees with responsibility for keeping data correct and protected is the best way for a company to guard against security threats, says Tim Stanley, CISO at Continental Airlines.

Stanley wants to categorize every file in the enterprise by three variables: owner, business value and risk level. The government has "top secret," "secret" and "confidential" rat-

The epoxy for the modern IT executive.

ings, but Continental's designations will be more granular and dynamic, using tiers and subsets of tiers. Thinking this way vaults Continental ahead of most companies. Just 24 percent report that classifying the business value of data is part of their security policies. While 68 percent classify their data according to risk level, at least periodically, 30 percent don't ever do it.

The complexity of such a project explains the low numbers, Lobel says. "Doing this project is a lot of effort, and unless there's a regulatory need for it, many don't do it."

Stanley expects the project to take three or four years. "Anything that keeps planes in the air and money coming through is Tier 1," Stanley explains. That would include information about crew scheduling, and cargo and fuel needs, as well as credit card processing information. Tier 2 or 3 is still important to protect, but not critical to keeping planes aloft, for example, providing employees access to their 401(k) accounts.

Security technology and procedures will correspond to the risk and tier level in which a given piece of data falls, as defined by the data owner. Tier 1 might mandate twice-a-day backups and two-factor user authentication, he says. "I can expend my resources more appropriately to our data's value and therefore save the company money," he says. "Stop spending $10 to protect $5 worth of data." Music to an airline CEO's ears, no doubt.

Which Brings Us Back to Money

With security budgets averaging $1.7 million, an optimistic 44 percent of those surveyed said their information security spending would increase this year, while 4 percent expected a decrease. Where will the money go? We see glimmers of hope.

Top priorities in the coming year include hiring information security consultants and hiring a chief information security officer. Respondents also plan to develop security procedures for handheld devices and create an identity management strategy. They expect to invest in technologies, including biometrics, to tighten access to sensitive data, as well as in data-leakage prevention and security event correlation tools to start analyzing what works and what doesn't on which kinds of security problems.

These steps, Lobel says, will get companies closer to a comprehensive security strategy. Already, he notes, 40 percent of organizations use security as a marketing point, usually soliciting business on the grounds that they protect customer data better than their rivals. "But it's only a competitive advantage if it works, if it's *good* security." CIO

Senior Editor Kim S. Nash can be reached at *knash@cio.com*. To comment on this article, go to *www.cio.com/article/451092*.

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THE GLOBAL STATE OF INFORMATION SECURITY

Our annual global survey, with PricewaterhouseCoopers, of more than 7,000 senior executives finds you're spending more on security. **But technology doesn't buy peace of mind.**

BY CAROLYN JOHNSON

THE GLOBAL SECURITY LANDSCAPE

Who Pays for Security?

Few companies have dedicated security budgets. IT is still a common source of security money, but funding from business functions is on the rise.

Funding source	2007	2008
Functional budgets	47%	60%
I.T. budget	65%	57%
Security budget	24%	24%

Respondents chose all that apply

SECURE THOSE BLACKBERRYS!

14% of security incidents in the past year **involved devices.**

WHO'S IN CHARGE OF INFORMATION SECURITY?

CISOs often report to **more than one executive.** At large companies, one of them is most likely the CIO.

Among big companies with CISOs, **44%** report to the CIO, compared to **36%** at mid-market companies.

WHY COMPANIES CARE

Business continuity and **compliance** lead the reasons for investing in security

Respondents chose all that apply

WE'VE BEEN Hit!

How organizations learn of security incidents:

Server or firewall files and logs **39%**

Intrusion detection/prevention system **37%**

36% Colleague

Respondents chose all that apply.

CIO RESEARCH SURVEY METHODOLOGY The "Global State of Information Security" survey, a worldwide study by *CIO*, *CSO* and PricewaterhouseCoopers, was conducted online from March 25, 2008, through May 19, 2008. *CIO* and *CSO* print and online customers and clients of PricewaterhouseCoopers from around the globe were invited to take the survey. The results shown in this report are based on responses from 7,097 security and information technology professionals from more than 100 countries. Thirty-nine percent of respondents were from North America, followed by Europe (27%), Asia (17%), South America (15%) and the Middle East and South Africa (2%). The margin of error for this study is +/- 1%.

Leader and Laggard

Financial services companies have adopted security best practices most widely. The consumer-products and retail industries lag the rest.

Practice	Consumer products/Retail	Financial services
Employs a CSO or CISO	43%	83%
Has an information-security strategy	52%	75%
Runs personnel background checks	47%	69%
Involves business and IT decision makers with information security issues	47%	67%
Dedicates staff for employee awareness programs	41%	60%
Provides security baselines for external partners	40%	59%
Has an information security budget	18%	37%

Respondents chose all that apply.

28%

of **consumer products and retail executives** said their company's security spending is **poorly aligned or not aligned with business objectives,** compared with

14%

of **financial services executives.**

What's in Your Toolbox?

With the IT group as a major source of funding for information security projects, technology has become the answer to many security questions. More respondents now have a comprehensive set of IT security tools.

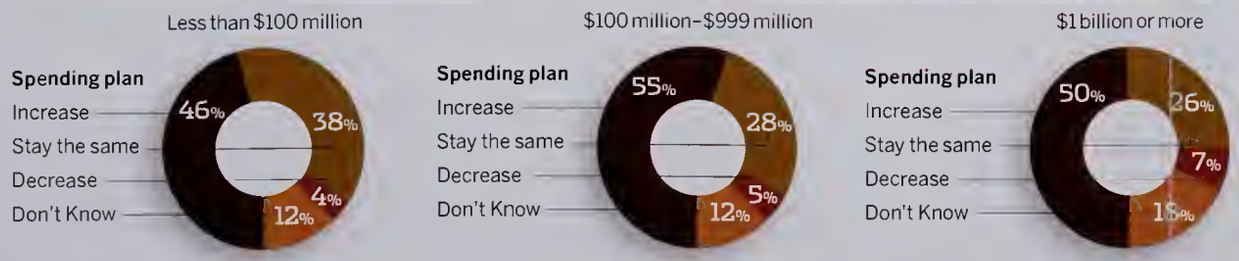
Technology	2007	2008
Malicious-code detection tools	80%	84%
Application-level firewalls	62%	67%
Intrusion detection	59%	63%
Intrusion prevention	52%	62%
Encryption		
Database	45%	55%
Laptop	40%	50%
Backup tape	37%	47%
Automated password reset	40%	45%
Wireless handheld device security	33%	42%

Respondents chose all that apply.

SPENDING MORE

Investment in security is going up, especially in the mid-market. Few are making cuts.

COMPANY REVENUE



Numbers may not add up to 100% due to rounding.

On average, companies in North America plan the smallest increases to their security budgets

AVERAGE INCREASE

MORE RESULTS ON PAGE 64

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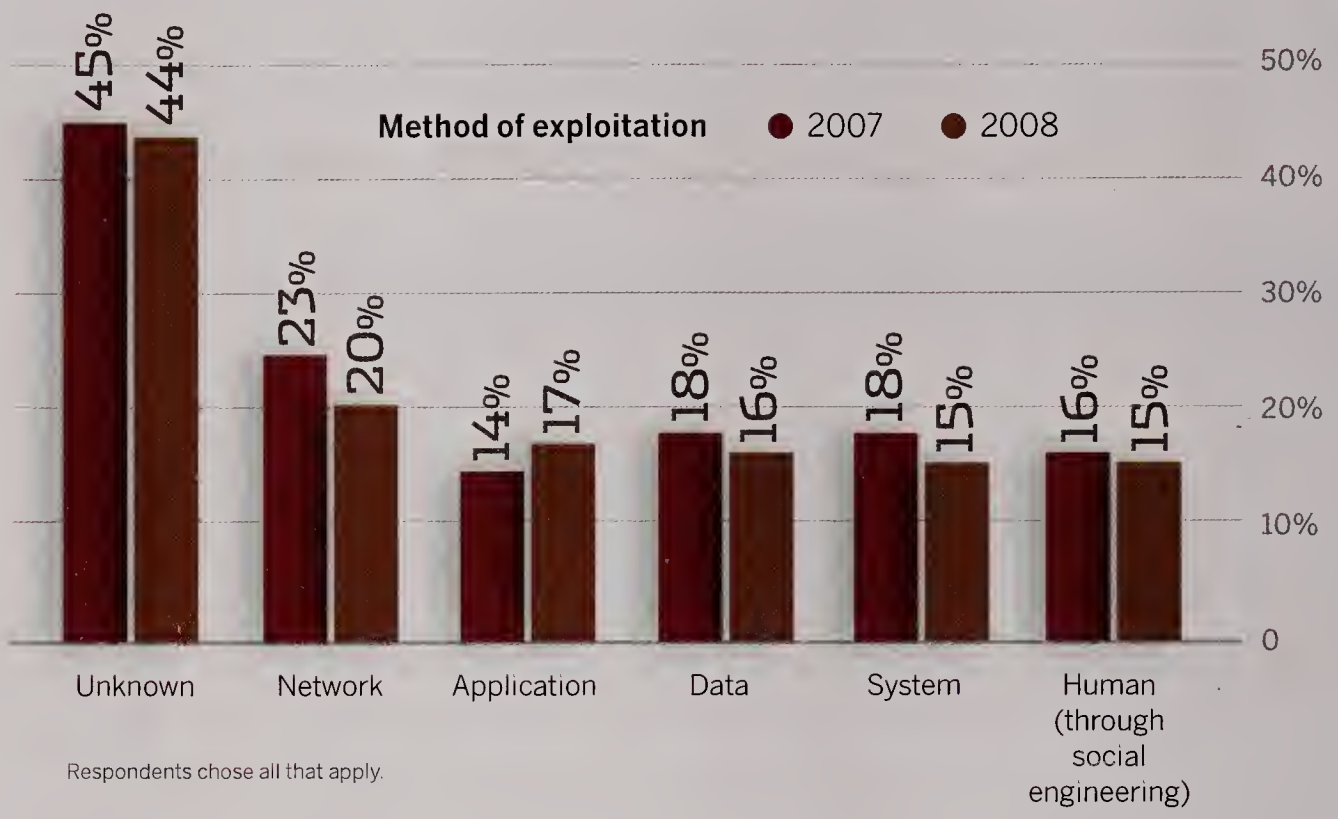
Ignorance Isn't Bliss, Part 1

Nearly half of respondents can't identify vulnerabilities that led to security incidents



Respondents chose all that apply.

Ignorance Isn't Bliss, Part 2

Employees and former employees together remain the biggest threat. But the source of nearly half of security incidents is unknown.

Source of incident	2007	2008
Unknown	*	42%
Employees	48%	34%
Hackers	41%	28%
Former employees	21%	16%
Business partner	19%	15%
Customer	9%	8%
Other	20%	8%
Terrorist/Foreign government	6%	4%

Respondents chose all that apply.

* Not a choice in 2007

Know Your Weakness

Find out **WHO KNOWS THE MOST ABOUT YOUR SYSTEM VULNERABILITIES** at **www.cio.com/article/449694**.

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How to Fix a Bad Outsourcing Deal

Outsourcing boomed over the last decade. So it's not surprising that a lot of incoming CIOs are inheriting some crummy outsourcing contracts. These deals are potential hornet's nests if not handled quickly and carefully. CIO Executive Council members who have dealt with this issue point to renewed governance and realigned expectations as the key to turning around these situations. They offer the following solutions.

Turn to the Experts

CIOs sometimes don't have staff with the in-house experience needed to easily sort out whether it makes sense to ride out a poorly performing outsourcing contract or move on to a new one. In this situation, turning to a consultant may be the most effective option.

Lynn Willenbring

When Lynn Willenbring became CIO of the city of Minneapolis, she recognized that despite the benefits of the current outsourcing contract, it was not being effectively managed and there were ambiguities in its language. She also felt that the in-house IT staff needed to focus more on strategic management and less on dictating the details of how to accomplish each of the vendor's tasks.

To help determine what changes were needed, Willenbring turned to consultants with experience in contract governance to advise her staff on industry best practices. The consultants initially came in to help evaluate whether to stay with the legacy vendor or to issue a new RFP. When the decision came to renegotiate, they became the lead negotiators under city oversight.

Realign Expectations

Not meeting expectations is a common complaint about outsourcing contracts, usually communicated in language such as, "I'm not getting anything I need out of this."

Whether those expectations are for financial gain or for service improvements, the first task for a new CIO who wants to provide a better outsourcing experience is to understand why the organization is outsourcing any part of its IT in the first place, says David Patzwald, CIO of Schneider Electric North America. The complexities of a contract and of user needs are only going to increase over time. Until a company understands what it wants out of the relationship, the vendor is not going to be able to deliver to anyone's satisfaction.

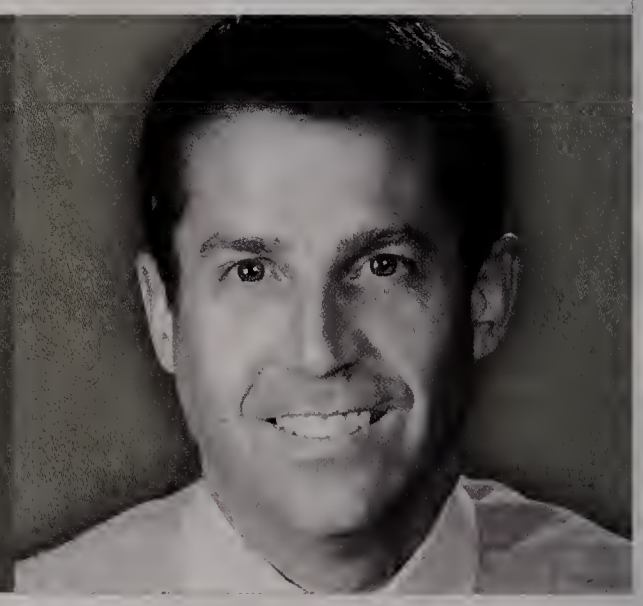
Part of being a good customer is not expecting what you didn't ask for, says Patzwald.

At Freescale Semiconductor, the expectation is that its help desk outsourcing vendor *Continued on Page 68*

[ONE::LINER]

"If you do switch vendors, take the opportunity to change your own behaviors as well. Was your staff truly committed to making your original outsourcing partner successful? Are their complaints about what worked, or did not work, valid?"

–DAVID PATZWALD, CIO, SCHNEIDER ELECTRIC NORTH AMERICA



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[PEER COUNSEL]

New Tactics for Old Deals

Tips to Help You Get What You Want at the Negotiating Table

SITTING DOWN WITH A VENDOR to renegotiate an existing outsourcing contract can be a challenging task. David Patzwald, CIO of Schneider Electric North America, offers the following suggestions for how to make your negotiation sessions a fruitful—not frustrating—experience.

- **Don't have only IT at the table.** Include people from other parts of the business, as close to the top as possible. No matter how much CIOs might wish otherwise, vendors will behave differently when the senior person in the room is from the business side.

- **Get blended measures of health.** It is important to establish health-of-contract metrics for both financial and emotional satisfaction, and to balance them in the vendor's mind. When one goal becomes more important than the other—racing to meet product delivery milestones leads to cutting the head of production out of the loop—a contract begins to fail.

- **Include vendor input.** The CIO should have the final decision when you're considering whether standing applications or new initiatives should end, but don't make those decisions without first talking to the vendor who services those projects.

–D.F.

Fix a Bad Outsourcing Deal

Continued from Page 66

will not only resolve customer problems quickly and fully but do so in a manner that keeps users happy. So new service-level agreements incorporate customer satisfaction survey results: On every call that is taken or handled, the customer can fill out a survey about how the vendor performed.

While increased efficiency is a good metric, high custpomer satisfaction is an even better one for ensuring a smooth relationship, says Freescale vice president and CIO Sam Coursen.

Implement Neutral Governance

Whether expectations have been the problem or there are new needs that must be incorporated into a contract, redefining service-level agreements is not as easy as just changing a few words. It requires full collaboration with the vendor and should be overseen by people who are not directly involved with the contract, Schneider's Patzwald says.

Sam Coursen

Patzwald created a governance group that stands apart from the contract, almost like an ombudsman. The group is responsible for everything from managing meetings among all the participants to publishing SLA scorecards for the entire company to see.

This semiexternal management is particularly effective if a contract involves more than one vendor, each of which has an associated project or contract lead, Patzwald says. The governance board can serve as an impartial coordinator or as the mediator in disputes and can settle questions of responsibility between vendors.

Put Staff Skin in the Game

As a company changes a contract, it is critical to invest the internal IT staff in making it a success. Convince them that it is to their benefit to have a "make-this-work" attitude, says Freescale's Coursen, because if they want to defeat any outsourcing effort, they can do it easily.

To reinforce the point that his IT staff was on the hook for a successful outsourcing relationship, Coursen incorporated vendor performance not only into his contract managers' performance reviews but into the reviews of all of his IT personnel.

Such tactics have their place. Ultimately, however, it's the CIO who is accountable for making sure an outsourcing arrangement—new or preexisting—is delivering what the organization needs. CIO

Diane Frank is content development specialist for the CIO Executive Council. To comment on this article, you can visit *www.cio.com/article/451094*.

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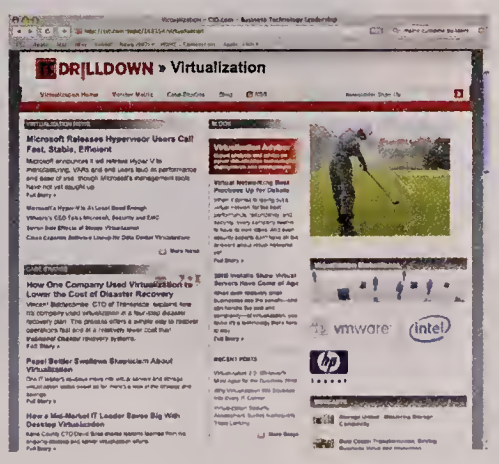
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5 Things I've Learned

THE VOICE OF EXPERIENCE * AS TOLD TO STEVEN VAUGHAN-NICHOLS

Linus Torvalds is the creator, muse and chief developer of the Linux operating system

Find people you can trust.
My personal guiding principle is that I try very hard to find people I can trust, and then try to get out of their way as much as possible. I don't mean unconditional trust; but on the other hand, once somebody maintains something, he or she really should be able to make all the normal daily decisions.

Be trustworthy yourself.
I, in turn, try to make myself as trustworthy as I can. In this context, "trustworthy" is about not surprising people. It's not some kind of fuzzy, feel-good Kumbaya trust where we all love each other. It's about the fact that people know my opinions and where I stand. While they may not like or agree with them all, at least they can trust me to be reliable.

Don't be afraid to say what you think.
Part of that is not feeling shy about saying impolite things or showing emotion. I'd rather flame people for doing stupid things and call them stupid than be polite to the point where people didn't understand how strongly I felt about something.

On the Internet, nobody can hear you being subtle. Subtlety or sarcasm simply doesn't get through, or it may not translate to other cultures.

You also have to let others have their say.
Part of [being very direct], of course, is having to sometimes say, "I was wrong." That can be hard. But I make it easier for me by often writing my flames something along the lines of: "You're a completely incompetent idiot, and I'm not going to apply this patch because it's obviously broken and is a total piece of sh*t. And here's why...." But then at the end I'll include: "And hey, maybe I'm just being a d*ck, and you can prove me right, so please explain to me why you did that horrible thing. Please?"

This gives people the ability to tell me I was wrong, and that all the reasons I called them idiots were actually bogus.

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